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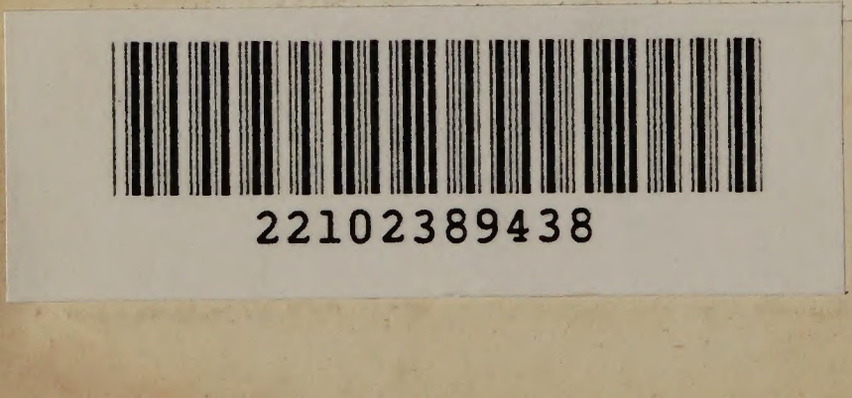
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OF

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CONSISTING OF

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INCLUDING THE

LATEST DISCOVERIES IN MEDICINE, SURGERY, AND THE COLLATERAL SCIENCES.

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VOL. XVII.

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   II. Gli Spedali e gli Ospizi di Parigi e di Londra, visitati nella primavera dell' anno 1852. Dal Dott. Pasquale Landi, di Cinigiano (con figure intercalate nel testo).

      The Hospitals, Lunatic Asylums, and Charitable Institutions of Paris and of London, visited in the Spring of the year 1852. By Dr. Pasquale Landi, of Cinigiano (with woodcuts interspersed through the text).

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8. An Expository Lexicon of the Terms, Ancient and Modern, in Medical and General Science; including a Complete Medical and Medico-Legal Vocabulary, and presenting the correct Pronunciation, Derivation, Definition, and Application of the Names, Analogues, Synonymes, and Phrases (in English, Latin, Greek, French, and German), connected with Medicine, and employed in Anatomy, Astronomy, Botany, Chemistry, &c. By R. G. Mayne, M. D., Surgeon to the Leeds Lock Hospital, ... 190

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BOOKS RECEIVED.

1. Die Cretinen-Heilanstalt auf dem Abend-berg in der Schweiz. Cant. Bern. Von Dr. Guggenbühl. Bern: Huber and Co., 1853. 4to. pp. 121.

[*We reviewed in our last Number the labours of Dr. Guggenbühl, with the praise they merited, in a notice of the English epitome of his book, with a copy of the original of which we have now been kindly favoured by him.*]

2. Asiatic Cholera; its Symptoms, Pathology, and Treatment. With which is embodied its Morbid Anatomy, general and minute, translated from a paper by Drs. Reinhardt and Leubuscher. By R. Barwell, F. R. C. S., &c. London: Churchill, 1853. 12mo. pp. 219.

3. The Science and Art of Surgery; being a Treatise on Surgical Injuries, Diseases, and Operations. By John Erichsen, Professor of Surgery in University College, &c. Illustrated by 250 Engravings on Wood. London: Walton and Maberly, 1853. 8vo. pp. 951.

[*In our next.*]

4. A Manual of Obstetrics. By J. F. Cock, M. D. New York: S. S. and W. Wood, 1853. 12mo. pp. 250.

5. A Hand-book of Inorganic Chemistry; being a New and greatly enlarged edition of the "Outlines of Inorganic Chemistry." For the use of Students. By W. Gregory, M. D., &c. Third Edition. London: Walton and Maberly, 1853. 12mo. pp. 291.

[*This Volume completes the admirable Manual of Professor Gregory; the most clear and correct, yet concise book on Chemistry in the English language. Its value makes us the more lament the author's dabbling in the mysticisms of the mesmeric quackeries.*]

6. On the Remote Cause of Epidemic Diseases. By John Parker, M. D., &c. Part I. London: Hatchard and Son, 1841. 8vo. pp. 198. Part II. London: Hatchard and Son, 1853. 8vo. pp. 16, with three Maps.

7. The Prevention and Treatment of Diseases in the Potato and other Crops. By J. Parkin, M. D., &c. London: Wood, 1849. 8vo. pp. 84.

8. The Cause of Blight and Pestilence in the Vegetable Creation; with Suggestions for the Development of other supplies of Food during the present crisis. By J. Parkin, M. D. London: Hatchard and Son, 1846. Pamphlet, pp. 15.

9. Transactions of the Pathological Society of London. Vol. IV., including the Report of the Proceedings for the Session 1852–53. London, 1853. 8vo. pp. 286.

[*Each volume of these Transactions, as published, reflects more and more credit on the Council of the Pathological Society of London. The present is a contribution of the greatest value to medical science, and should be studied by every practitioner who desires to keep his knowledge on a par with the advancing state of our science.*]

10. A Few Sober Words on Table-Talk, about Table-Spirits and the Rev. N. S. Godfrey's Incantations. By John Prichard, F. R. C. S. Second Edition. Leamington: at all the Libraries. Pamphlet, pp. 20.

11. Practical Pharmaceutical Chemistry. An explanation of Chemical and Pharmaceutical Processes, with the Method of Testing the Purity of the Preparations. Deduced from Original Experiments. By Dr. G. C. Wittstein. Translated and edited from the Second German Edition, by Stephen Darby. London: Churchill, 1853. 12mo. pp. 624.

[*A most useful little book to the Chemist, the Pharmaceutist, and the Student of the Materia Medica, for which our thanks are due for its appearance in an English dress to Mr. Darby.*]

12. The Microscope in its special Application to Vegetable Anatomy and

Physiology. By Dr. H. Schacht. Translated by F. Currey, Esq., M. A. With numerous Illustrations. London: Highley, 1853. 12mo. pp. 131.

13. The Irish School of Medicine as it is, and as it ought to be. An Address introductory to a Course on Pathological Anatomy and Histology in relation to the Practice of Medicine and Surgery, delivered at the Royal Cork Institution. By T. S. Holland, M. D. Cork: Purcell. Pamphlet, pp. 23.

[*This Lecture affords one of the best illustrative examples we have ever met with of how far the* suggestio falsi *and* suppressio veri *may be carried. The statements in it regarding the Irish School of Medicine are therefore completely beneath our notice.*]

14. On the Advantages of the Starched Apparatus in the Treatment of Fractures and Diseases of Joints; being the First Part of an Essay to which the Council of University College have awarded the Liston Clinical Medal. By Joseph Sampson Gamgee. London: Lewis, 1853. 8vo. pp. 89.

15. On the relation between Therapeutics and Pathology, with especial reference to some forms of Cardiac, Renal and Nervous Diseases. A Course of Lectures delivered at the Royal College of Physicians in the Spring of 1853. By George Johnson, M. D., &c. (From the Medical Times and Gazette.) London, 1853. Pamphlet, pp. 113.

[*These excellent practical Lectures are well deserving of being reprinted from the pages of our London weekly contemporary, in which they originally appeared.*]

16. Medical Reform; being the Sketch of a Plan for a National Institute of Medicine. By Azygos. London: Partridge and Oakey, 1853. Pamphlet, pp. 77.

17. Hooper's Physician's Vade-Mecum; or, a Manual of the Principles and Practice of Physic. Fourth Edition, considerably enlarged and improved; with an Outline of General Pathology and Therapeutics. By W. A. Guy M. B., &c. London: Renshaw, 1854. Fcap. 8vo. pp. 660.

18. The Surgeon's Vade-Mecum. A Manual of Modern Surgery. By Robert Druitt, F. R. C. S., &c. Sixth Edition. London: Renshaw, 1854. Fcap. 8vo. pp. 691.

[*The favour with which Mr. Druitt's Manual has been received by the Profession is sufficient evidence of its highly practical character, and deprives it of any need of the reviewer's commendation. The present edition is excellently got out, and the wood-cuts in which it abounds most carefully and beautifully executed.*]

19. Traité de Chimie Pathologique appliquée à la Médecine pratique, par M. Alf. Becquerel et M. le docteur M.-A. Rodier. Paris: Germer Baillière, 1854. 8vo. pp. 608.

[*In our next.*]

20. Traité Clinique et Pratique des Maladies des Vieillards, par M. Durand-Fardel, Docteur en Médecine de la Faculté de Paris, &c. Paris: Germer Baillière, 1854. 8vo. pp. 876.

[*In our next.*]

21. De la Cataracte, Mémoire Couronné, par l'Institut Médical de Valence, par J. Leport, Médecin-Oculiste a Rouen, &c. Paris: G. Baillière, 1852. Pamphlet, pp. 48.

22. On Fatty Degeneration. By the late W. F. Barlow, F. R. C. S. London: Churchill, 1853. 12mo. pp. 92.

23. Hand-book of Chemistry, Theoretical, Practical, and Technical. By F. A. Abel, and C. L. Bloxam; with a Preface by Dr. Hofmann. London: Churchill, 1854. 8vo. pp. 724.

24. The Pathology and Treatment of Stricture of the Urethra, both in

the Male and Female. Being the Treatise for which the Jacksonian Prize for the Year 1852 was awarded by the College of Surgeons of England. By Henry Thompson, F. R. C. S., &c. London: Churchill, 1854. 8vo. pp. 424.

25. Clinical Lectures on Pulmonary Consumption. By Theophilus Thompson, M. D., F. R. S., &c. London: Churchill, 1854. 8vo. pp. 211.

26. On Diseases of the Rectum. By James Syme, F. R. S. E., Professor of Clinical Surgery in the University of Edinburgh. Third Edition. Edinburgh: Sutherland and Knox, 1854. 8vo. pp. 133.

27. Additional Experiments on the Excitability of Paralysed and Healthy Limbs by the Galvanic Current. By R. B. Todd, M. D., F. R. S., &c. (From the Medico-Chirurgical Transactions, Vol. XXXVI.) Pamphlet, pp. 23.

[*Characterized by the principles of careful investigation and sound induction which have always rendered so valuable Dr. Todd's numerous contributions to medical science.*]

28. Third Annual Report of the Medical Superintendent of the Manchester Royal Lunatic Asylum, situate near Cheadle, Cheshire, for the Year from June 25, 1852, to June 25, 1853. Manchester: Fowler, 1853. Pamphlet, pp. 32.

29. The Nature of Cholera investigated, with a Supplemental Chapter on Treatment, addressed to Junior Practitioners. By J. G. French, F.R.C.S., &c. Second Edition. London: Churchill, 1854. 8vo. pp. 152.

30. Reminiscences of a Medical Life, with Cases and Practical Illustrations. By Jonathan Toogood, F. R. C. S., &c. London: Longmans, 1853. 8vo. pp. 177.

[*It would have been much better for Mr. Toogood's fame if his reminiscences had remained in the obscurity of his note-book, for they are, in truth, the "veriest trash."*]

31. The Anatomy and Diseases of the Prostate Gland. By John Adams, Surgeon to the London Hospital, &c. London: Longmans, 1853. 8vo. pp. 178.

[*The appearance of this new edition of Mr. Adams' book proves that our verdict on the former one has been ratified by the Profession. We have now embodied in it "such further observations as an extended experience has enabled him to make."*]

32. Hand-book of Inorganic Analysis: 122 Examples, illustrating the most important Processes for determining the Elementary Composition of Mineral Substances. By Frederick Wöhler, Professor of Chemistry in the University of Göttingen. Edited by A. W. Hoffman, Ph. D., &c. London: Walton and Maberly, 1854. Square 8vo. pp. 239.

[*A most useful volume to the practical chemist.*]

33. Surgical Anatomy. By Joseph Maclise, F. R. C. S. Second Edition. London: Churchill, 1853. Folio. Fasciculi I. II. and III. Plates 1 to 12.

34. On the Therapeutic Uses of a new Ferro-Manganic Preparation, the "Saccharine Carbonate of Iron and Manganese." By Stanhope Templeman Speer, M. D. (From the Medical Times and Gazette.) Pamphlet, pp. 9.

35. The Opening Address delivered at the Surgical Society of Ireland, for the Session 1853–4. By W. Hargrave, M. D., President of the College. Pamphlet, pp. 12.

36. Guy's Hospital Reports. Second Series. Vol. III. Part 2. London: Churchill, 1853.

37. Unsoundness of Mind considered in relation to the Question of Responsibility for Criminal Acts. By Samuel Knaggs, M. R. C. S. E. London: Churchill, 1854. 8vo. pp. 96.

[*In our next Annual Review of Insanity.*]

38. Medico-Legal Observations on Infantile Leucorrhœa, &c. By W. R. Wilde, F. R. C. S., &c. (From the Medical Times and Gazette.) London: Churchill. 12mo. pp. 40.

39. Remarks on the Examination of Recruits: intended for the Use of young Medical Officers on entering the Army. By H. H. Massy, A. B., M. B., 4th Light Dragoons. London: Churchill, 1854. 8vo. pp. 131.

[*In our next.*]

40. The Odontalgist; or, How to Preserve the Teeth, Cure Toothache, and regulate Dentition from Infancy to Age. By J. Paterson Clark, M. A., Dentist to his R. H. Prince Albert, &c. London: Churchill, 1854. 8vo. pp. 184.

41. Practical Observations on the History, Nature, and Treatment of Cholera Asphyxia. By John Coghlan, M. D., Wexford, M. R. C. S. E., &c. Dublin: Fannin and Co., 1853. Pamphlet, pp. 25.

42. Iconographie Ophthalmologique, ou Descriptions et Figures Coloriées des Maladies de l'Organe de la Vue, comprenant l'Anatomie Pathologique, la Pathologie et la Thérapeutique Médico-Chirurgicales; par le Docteur J. Sichel, Professeur d'Ophthalmologie, Médecin-Oculiste des Maisons d'éducation de la Légion d'honneur, etc. Paris and London: Hippolyte Baillière, 1852. 4to. Parts 1 to 4.

43. Traité Élémentaire des Maladies de la Peau, d'après l'Enseignement théorique et les Leçons cliniques de M. le Docteur A. Cazenave, Médecin de l'Hôpital Saint-Louis, par M. le Docteur Chausit, Ancien Interne de l'Hôpital Saint-Louis. Paris and London: Hippolyte Baillière, 1852. 8vo. pp. 448.

[*In our next.*]

44. Dictionnaire d'Hygiéne Publique et de Salubrité, ou Répertoire de toutes les Questions relatives à la Santé Publique, considérées dans leurs Rapports avec les Subsistances, les Épidémies, les Professions, les Établissements et Institutions d'Hygiène et de Salubrité, complété par le texte des Lois, Décrets, Arrêtés, Ordonnances et Instructions qui s'y rattachent; par le Docteur Ambroise Tardieu, Professeur agrégé à la Faculté de Médecine de Paris, Médecin des Hôpitaux, Membre du Conseil Consultatif d'Hygiène Publique, Médecin Assermenté près les Tribunaux, etc. Paris and London: Hippolyte Baillière, 1852 et 1853. Vols. I. and II. 8vo. pp. 567 and 532.

[*In our next.*]

45. An Expository Lexicon of the Terms, Ancient and Modern, in Medical and General Science; including a complete Medical and Medico-Legal Vocabulary, and presenting the correct Pronunciation, Derivation, Definition, and Application of the Names, Analogues, Synonymes, and Phrases (in English, Latin, Greek, French, and German), employed in Science and connected with Medicine. London: Churchill, 1853. Royal 8vo. Part 1. A to Camara.

46. The British Journal of Homœopathy. No. XLVII. January, 1854. London: Aylott and Co.

47. The Common Sense of Cholera. By a Practical Practitioner. London: Churchill, 1854. Pamphlet, pp. 68.

PERIODICALS WITH WHICH THE DUBLIN QUARTERLY JOURNAL IS EXCHANGED.

GREAT BRITAIN.

1. The British and Foreign Medico-Chirurgical Review and Journal of Practical Medicine. Published Quarterly. London: Churchill, and Highley. (Received No. 25.)

2. The Edinburgh Medical and Surgical Journal; exhibiting a concise View of the latest and most important Discoveries in Medicine, Surgery, and Pharmacy. Published Quarterly. Edinburgh: Black. (Received No. 198.)

3. The Retrospect of Medicine, being a half-yearly Journal, containing a retrospective View of every Discovery and practical Improvement in the Medical Sciences. Edited by W. Braithwaite. London: Simpkin and Co. (Received Vol. XXVIII.)

4. The Half-Yearly Abstract of the Medical Sciences, being a practical and analytical Digest of the principal British and Continental Medical Works, &c. Published Half-Yearly. Edited by W. H. Ranking, M. D., and C. B. Radcliffe, M. D. London: Churchill. (Received Vol. XVIII.)

5. Pharmaceutical Journal and Transactions. Published Monthly. London. Edited by Jacob Bell. (Received regularly.)

6. The London, Edinburgh, and Dublin Philosophical Magazine and Journal of Science. Conducted by Sir David Brewster, Richard Taylor, Sir Robert Kane, and William Francis, Ph. D. Published Monthly. London: Taylor. (Received regularly.)

7. Monthly Journal of Medical Science. Edinburgh: Sutherland and Knox. (Received regularly, except No. for June.)

8. The Chemist, a Monthly Journal of Chemical Philosophy and of Chemistry. Edited by J. and C. Watt. London: Highley. (Received regularly.)

9. Medical Times and Gazette. Published Weekly. London: John Churchill. (Received regularly.)

10. Medical Association Journal. Edited by John Rose Cormack, M. D. Published Weekly. London: Honeyman. (Received regularly.)

11. The Journal of Psychological Medicine and Mental Pathology. Edited by Forbes Winslow, M. D. Published Quarterly. London: Churchill. (Received No. 25.)

12. Quarterly Journal of Microscopical Science: including the Transactions of the Microscopical Society of London. Edited by E. Lankester, M. D., F. R. S., &c., and G. Busk, F. R. C. S. E., F. R. S., &c. London: Highley. (Received regulary.)

13. The Glasgow Medical Journal. Published Quarterly. Griffin and Co. (Received regularly.)

14. The Athenæum—Journal of English and Foreign Literature, Science, &c. Published Weekly. London. (Received regularly.)

15. The Westminster Review. Published Quarterly. London: John Chapman. (Received regularly.)

INDIA.

16. The Indian Annals of Medical Science; or, Half-Yearly Journal of Practical Medicine and Surgery. Calcutta: Lepage and Co. (Received No. 1.)

AMERICA.

17. The American Journal of the Medical Sciences. Edited by Isaac Hays, M. D. Published Quarterly. Philadelphia: Lea and Blanchard. (Received regularly.)

18. The Medical Examiner and Record of Medical Science. Edited by F. G. Smith, M. D., and J. B. Biddle, M. D. Published Monthly. Philadelphia: Lindsay and Blakiston. (Received regularly.)

19. The New York Journal of Medicine and the Collateral Sciences. Edited by S. S. Purple, M. D., and S. Smith, M. D. Published Monthly. New York: Hudson. (Received regularly.)

20. The American Journal of Science and Arts; conducted by Professors Silliman and B. Silliman, Jun., and J. D. Dana. Published Bi-monthly. New Haven. (Received regularly.)

21. The American Journal of Insanity. Published by the New York State Lunatic Asylum, Utica, Quarterly. (Received Vol. X. No. 2.)

22. The American Journal of Dental Science. Edited by C. A. Harris, M. D., and A. A. Blandy, M. D. Published Quarterly. (Vol. III. No. 3, not received.)

23. The Boston Medical and Surgical Journal. Published Weekly. Boston: Clapp. (Received regularly, except Part 267.)

24. The Charleston Medical Journal and Review. Edited and Published by D. J. Cain, M. D., and E. P. Porcher, M. D. Published bi-monthly. Charleston, S. C. (Received regularly for this Year; our Set is deficient in No. 1 of Vol. VI., and in the whole of Vol. VII., which we will thank the Editors to forward to us if they wish the Exchange to be continued for the future.)

25. The Stethoscope and Virginia Medical Gazette. Edited by P. C. Gooch, M. D. Published Monthly. Richmond: Virginia. (Received regularly for this year; but our Set is deficient in Nos. 2, 3, 4, 5, 11, and 12 of Vol. I., and Nos. 1, 3, 4, 5, 7, 8, 9, and 11 of Vol. II., which we will thank the Editor to forward to us, if he wishes the Exchange to be continued for the future.)

FRANCE.

26. Gazette Médicale de Paris. Published Weekly. Paris. (Received regularly.)

27. Journal de Chimie Médicale, de Pharmacie, de Toxicologie, et Revue des nouvelles, scientifiques, nationales et étrangères, &c. Published Monthly. Paris: Labé. (Received regularly.)

28. Journal de Pharmacie et de Chimie, &c. Published Monthly. Paris: Victor Masson. (Received regularly).

29. L'Union Médicale, Journal des intérêts scientifiques et pratiques, moraux et professionels du Corps médical. Published three times a Week. Paris. (Received regularly.)

30. La Lancette Française, Gazette des Hôpitaux civils et militaires. Published three times a Week. Paris. (Received regularly.)

31. Le Moniteur des Hôpitaux, Journal des Progrès de la Médecine et de la Chirurgie Pratiques. Redacteur en chef: M. H. de Castelnau. Paris. Published three times a Week. (Received regularly.)

32. Revue Médicale Française et étrangère, Journal des Progrès de la Médecine Hippocratique. Published twice a Month. Par J. B. Cayol. Paris. (Received regularly.)

33. Revue Médico-Chirurgicale de Paris. Sous la Direction de M. Malgaigne. Published Monthly. (Received regularly.)

34. Archives Générales de Médecine; Journal Complémentaire des Sciences Médicales. Published Monthly. Paris: Labé. (Received regularly.)

35. Bulletin de l'Académie Nationale de Médecine. Published Monthly. Paris: Baillière. (Received.)

36. Mémoires de l'Académie de Médecine. Vol. XVIII.

37. Revue de Thérapeutique Médico-Chirurgicale. Published twice a Month. Paris: Dr. A. Martin-Lauzer. (Received regularly.)

38. Journal de Médecine et de Chirurgie Pratiques a l'Usage des Médecins Praticiens. Published Monthly. Par Lucas Champonnière. Paris. (Received regularly.)

39. Recueil de Médecine Vétérinaire. Published Monthly. Paris: Labé. (Received regularly.)

40. Journal des Connaissances Médicales pratiques et de Pharmacologie. Published twice a Month. Paris. (Received regularly.)

41. Annales Médico-Psychologiques. Par MM. Baillarger, Brierre de Boismont, et Cerise. Published Quarterly. Paris: Victor Masson. (Received regularly.)

42. Bulletin Général de Thérapeutique, Médicale et Chirurgicale. Recueil pratique. Publiée par le Docteur Debout. Published twice a Month. Paris. (Received regularly.)

43. Repertoire de Pharmacie. Recueil pratique. Par M. le Dr. Bouchardat. Published Monthly. (Received regularly.)

44. Archives d'Ophthalmologie, comprenant les travaux les plus importants sur l'Anatomie, la Physiologie, la Pathologie, l'Hygiène et la Thérapeutique de l'Appareil de la Vision. Par M. A. Jamain, Docteur en Médecine, &c. Published Monthly. Paris. (Received Parts I. to IV.)

45. Gazette Médicale de Strasbourgh. Published Monthly. (Received regularly.)

46. Revue Thérapeutique du Midi, &c. Publié par le Dr. Louis Saurel. Published twice a Month. Montpellier. (Received regularly, except the First Number for 1853.)

47. Journal de Médecine de Bordeaux. Redacteur en chef, M. Costes. Published Monthly. (Received regularly.)

BELGIUM.

48. Annales D'Oculistique. Fondées par le Docteur Florent Cunier. Published Monthly. Brussels. (Received regularly.)

49. Nouvelle Encyclographie des Sciences Médicales. Publiée par une Société de Médecins. Published Monthly. (Received regularly.)

50. Annales et Bulletin de la Société de Médecine de Gand. Published Monthly. (Received regularly.)

GERMANY.

51. Zeitschrift für rationelle Medicin; herausgegeben Von Dr. J. Henle and Dr. C. Pfeufer, Professoren der Medizin an der Universität zu Heidelberg. Published Monthly. (Received Vol. IV. No. 1.)

52. Der ärztliche Hausfreund, herausgegeben von R. Froriep. Landes-Industrie-Comptoir, in Weimar. (Received regularly.)

53. Zeitschrift der Kais. Kön. Gesellschaft der Aerzte zu Wien. Redacteur: Professor, Dr. Ferdinand Hebra. (Received Vol. IX. Nos. 8 and 11. Nos. 3 and 4, of Vol. VIII., not received.)

54. Vierteljahrschrift für die praktische Heilkunde, herausgegeben von der medicinischen Facultät in Prag. Published Quarterly. Karl André. (Received regularly. Parts 2 and 4, 1851, and Parts 2 and 3, 1850, not received.)

55. Annalen der Chemie und Pharmacie. Herausgegeben von F. Wöhler und J. Liebig. Published Monthly. Heidelberg. (Received regularly, except Vol. LXXXV. Part 3, and Vol. LXXXVI. Part 1.)

56. Canstatt's Jahresbericht über die Fortschritte der gesammten Medicin in allen Ländern, im Jahre 1852. Redigirt von Pr. Scherer, Pr. Virchow, und Dr. Eisenmann. Würzburg: Stahel. (Received regularly.)

57. Journal für Kinderkrankheiten. Herausgegeben von Dr. Fr. J. Behrend und Dr. A. Hildebrand. Published Monthly. Erlangen: Palm und Enke. (Received Vol. XX., Nos. 7 and 8).

58. Archiv für pathologische Anatomie und Physiologie, &c., Herausgegeben von R. Virchow. Berlin. Published Monthly. (Received Vol. VI. Part 1.)

SWITZERLAND.

59. Verhandlungen der Naturforschenden. Gesellschaft in Zurich. Published Weekly. (Not yet received.)

HOLLAND.

60. Geneeskundige Courant von het Koningrijk der Nederlanden. (Not yet received.)

DENMARK.

61. Bibliothek for Læger, Tredie Række. Udgivet af Direktionen for de classenske Literaturselskab. Redigeret af Dr. Dahlerup. Published Monthly. Kjobenhavn. (Not received.)

62. Hospitalsmeddelelser. Copenhagen. (Not received.)

NORWAY.

63. Norsk Magazin, for Lægevidenskaben, udgivet af det medicinske Selskab i Christiania. Redigeret af W. Boeck. Faye. A. W. Münster. Lund. Voss. Published Monthly. Christiania: Feilberg & Landmark. (Nos. 4, 5, and 6, for 1853, not received.)

SWEDEN.

64. Hygiea, Medicinsk och Pharmaceutisk Månads-Skrift. Published Monthly. Stockholm: Fritze. (Received Parts 8 and 9, for 1853. Part 11, for 1850, and Parts 9 to 12, 1849, not received.)

ITALY.

65. Gazzetta Medica Italiana Federativa Toscana. Florence. Published Weekly. (Received regularly.)

66. Bulletino delle Scienze Mediche. Publicato per cura della Società Medico-Chirurgica di Bologna. Published Monthly. (Received regularly. The April Number, for 1851, not received.)

67. Giornale Veneto di Scienze Mediche. Published Monthly. (Received regularly.)

SPAIN.

68. Boletin de Medicina, Cirurgia, y Farmacia; Periodico oficial de la Sociedad Médica General de Socorros Mutuos. Madrid. Published Weekly. (Received regularly, except Nos. 33, 82, and 154.)

69. El Heraldo Médico. Edited by Professor G. de le Vega. Madrid. Published Weekly. (Received regularly. Nos. 2 to 13 not received.)

NOTICES TO CORRESPONDENTS.

OWING to the absence of the artist on the Continent, we have been unable to obtain a Portrait of Dr. W. Stokes completed in sufficient time for our present Number. It is to be engraved on steel, and we expect to be able to publish it in our May Number, in continuation of the Gallery of the living eminent Physicians and Surgeons of Ireland which we commenced last year.

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2. Anteckningar om de förnämsta Medicinska Skolorna uti Italien, Frankrike, Holland, och England. Af Prof. C. Santesson. Hygiea, August and September, 1853, ... 382

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3. Remarks on the Examination of Recruits, intended for the use of young Medical Officers on entering the Army. By H. H. Massey, A. B., M. B., 4th Light Dragoons, ... 387

4. Traité de Chimie Pathologique, appliquée à la Médecine pratique. Par M. Alf. Becquerel et M. le Docteur M.-A. Rodier, 390

5. Beiträge zur Lehre von den Knochenbrüchen. Von Albrecht Theodor Middeldorf, Doctor der Medicin und Chirurgie; Praktischem Arzt; Wundarzt und Geburtshelfer; Docenten der Chirurgie an der Universität Breslau; Wundarzt am

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Contributions to the Theory of Fractures of Bones. By Albrecht Theodore Middeldorf, Doctor of Medicine and Surgery ; Teacher of Surgery at the University of Breslau, &c. With five lithographed Plates.

6. On Fatty Degeneration. By the late W. T. Barlow, F.R.C.S., 399

7. A Treatise on the Diseases, Injuries, and Malformations of the Rectum and Anus. By T. J. Ashton, Surgeon to the Blenheim Dispensary, formerly House Surgeon to University College Hospital, &c., ... 409

8. Sleep and Dreaming. A Lecture delivered before the Cork Young Men's Association, during its third session. By John Popham, A. B., M. D., ... 414

9. Traité Clinique et Pratique des Maladies des Vieillards. Par M. Durand-Fardel, Docteur en Médecine de la Faculté de Paris, &c., ... 415

10. Practical Observations on Gout and its Complications, and on the Treatment of Joints stiffened by Gouty Deposits. By T. Spencer Wells, Fellow of the Royal College of Surgeons of England ; Member of the Royal Institution of Great Britain ; late Assistant Surgeon in Malta Hospital, &c., ... 417

11. The Science and Art of Surgery ; being a Treatise on Surgical Injuries, Diseases, and Operations. By John Erichsen, Professor of Surgery in University College, and Surgeon to University College Hospital, ... 425

12. Dictionnaire d'Hygiéne Publique et de Salubrité, ou Répertoire de toutes les Questions relatives à la Santé Publique, considérées dans leurs Rapports avec les Subsistances, les Épidémies, les Professions, les Établissements et Institutions d'Hygiène et de Salubrité, complété par le texte des Lois, Décrets, Arrêtés Ordonnances et Instructions qui s'y rattachent. Par le Docteur Ambroise Tardieu, Professeur agrégé à la Faculté de Médecine de Paris, Médecin des Hôpitaux, Membre du Conseil Consultatif d'Hygiène Publique, Médecin Assermenté près les Tribunaux, etc., ... 437

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Child on Indigestion. Parker on Syphilitic Diseases. Siebold and Stannius' Comparative Anatomy. Golding Bird's Natural Philosophy. Dendy on the Varieties of Pock. Neligan's Materia Medica.

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BOOKS RECEIVED.

1. Functional and Sympathetic Affections of the Heart. A Paper read before the Society of Statistical Medicine. By John W. Corson, M. D., &c. New York, 1854. Pamphlet, pp. 31.

2. A Treatise on the Diseases, Injuries, and Malformations of the Rectum and Anus. By T. J. Ashton, Surgeon to the Blenheim Dispensary, &c. London: Churchill, 1854. 8vo. pp. 356.

3. On the British Tritons. By John Higginbotham, F. R. S. (From the Annals and Magazine of Natural History, December, 1853.) Pamphlet, pp. 16. With Plates.

4. On Indigestion and Certain Bilious Disorders often conjoined with it. By G. C. Child, M. D., &c. Second Edition. London: Churchill, 1854. 8vo. pp. 210.

[*We reviewed the First Edition of this Work in the favourable terms it merited in the Fourth Volume of our present Series. It is now considerably altered and improved by the incorporation of the extended experience which the author has acquired during the seven years which have since elapsed. We most warmly recommend it to our readers as a safe and useful guide in the treatment of a very troublesome class of disorders.*]

5. The Modern Treatment of Syphilitic Diseases, both Primary and Secondary; comprising the Treatment of Constitutional and Confirmed Syphilis, by a safe and successful Method. With numerous Cases, Formulæ, and Clinical Observations. By Langston Parker, Surgeon to the Queen's Hospital, Birmingham. Third Edition. London: Churchill, 1854. 8vo. pp. 345.

[*The Third Edition of Dr. Parker's valuable Treatise may be almost regarded as a New Work, so much is it extended and improved. It contains the results of twenty years' experience in the treatment of Syphilis, during which time the author states that he has personally treated more than eight thousand cases. In it the Profession is presented with an admirable collection of cases, carefully tabulated and indexed; Dr. Parker's opinions are moderate and judicious, and we consider that he takes a sound view of the value of the non-mercurial and mercurial treatment of the disease.*]

6. Medical Statistics of the Dublin Metropolitan Police; with Report of the Medical Officers for the Year 1853. Dublin: Thom, 1854. Folio, pp. 7.

7. Comparative Anatomy. By C. Th. von Siebold and H. Stannius. Translated from the German, and edited with Notes and Additions recording the recent progress of the Science. By Waldo J. Burnett, M. D. London: Trübner and Co., 1854. Vol. I. Royal 8vo. pp. 470.

[*This is an American translation from the German of one of the best modern text-books on Comparative Anatomy. It is clearly and carefully translated, perfectly free from any foreign solecisms in style; and as regards paper and typography, is most admirably got out.*]

8. Elements of Natural Philosophy; or, an Introduction to the Study of the Physical Sciences. Fourth Edition. By Golding Bird, M. D., F. R. S., and Charles Brooke, M. D., Cantab., F. R. S. London: Churchill, 1854. Fcap. 8vo. pp. 626.

[*The demand for a Fourth Edition of Dr. Golding Bird's Elements of Natural Philosophy is a sufficient proof of its value and correctness; much of the Volume has been re-written, and the whole has been carefully re-edited, with the competent assistance of Dr. Brooke, Lecturer on Physics to the Westminster Hospital.*]

9. Reports on Epidemic Cholera; drawn up at the desire of the Cholera Committee of the Royal College of Physicians. By W. Baly, M. D., and W. W. Gull, M. D. London: Churchill, 1854. 8vo. pp. 345 and 220.

10. On the Thickness of the Articular Cartilages at different periods of Life in Human Subjects. By P. Redfern, M. D., &c. (From the Monthly Journal of Medical Science.) 1854. Pamphlet, pp. 8.

11. The Varieties of Pock delineated and described. By W. C. Dendy. London: Highley, 1853. 12mo. pp. 31.

[*A useful little Essay, bearing on the important questions of the prophylaxis and mitigation of Small-Pox. We regret that we cannot praise the execution of the coloured lithographs, which are coarsely drawn and badly printed.*]

12. A Clinical Introduction to the Practice of Auscultation, and other Modes of Physical Diagnosis in Diseases of the Lungs and Heart. By H. M. Hughes, M. D., &c. Second Edition. London: Longmans, 1854. 12mo. pp. 302.

13. Class Book of Botany; being an Introduction to the Study of the Vegetable Kingdom. By J. H. Balfour, M. D., &c., Professor of Botany in the University of Edinburgh. With upwards of 1300 Illustrations. Edinburgh: A. and C. Black, 1854. 8vo. Part II. pp. 359 to 1114.

[*In our next.*]

14. Practical Observations on Gout and its Complications, and on the Treatment of Joints stiffened by Gouty Deposits. By T. Spencer Wells, F. R. C. S., &c. London: Churchill, 1854. 12mo. pp. 288.

15. Observations on the Dentition of the Lilliputian Aztecs. By Dr. Robert Reid. (Reprinted from the Edinburgh Monthly Journal for February, 1852.) Pamphlet, pp. 7.

16. Statistical Reports of the Health of the Navy, for the Years 1837 to 1843. Part II. East India Station. Parliamentary Paper. Folio, pp. 93.

[*A most admirable Parliamentary document.*]

17. Dr. Conquest's Outlines of Midwifery; intended as a Text-book for Students, and a book of reference for Junior Practitioners. A New Edition. By J. M. Winn, M. D., &c. With numerous Illustrations on Wood. London: Longmans, 1854. 12mo. pp. 323.

[*In our next.*]

18. Sleep and Dreaming. A Lecture delivered before the Cork Young Men's Association. By John Popham, A. B., M. D., &c. Dublin: Hodges and Smith. Pamphlet, pp. 56.

19. Littlemore Asylum. Superintendent's Report for 1853; with Statistical Tables. Pamphlet, pp. 31.

20. On the Use of an Artificial Membrana Tympani in Cases of Deafness dependant upon Perforation or Destruction of the Natural Organ. By Joseph Toynbee, F. R. S., &c. Second Edition. London: Churchill, 1854. 8vo. pp. 31.

21. An Inquiry into the Pathological Importance of Ulceration of the Os Uteri; being the Croonian Lectures for the Year 1854. By Charles West, M. D., &c. London: Longmans, 1854. 8vo. pp. 95.

[*In our next.*]

22. The British Journal of Homœopathy. No. XLVIII. April, 1854. London: Aylott and Co.

23. Notes on the Pathology and Treatment of Cholera. By John Rose Cormack, M. D., &c. London: Highley, 1854. 12mo. pp. 67.

24. Pneumonia; its supposed connexion, Pathological and Etiological, with Autumnal Fevers; including an Inquiry into the Existence and Morbid Agency of Malaria. By R. La Roche, M. D., &c. Philadelphia: Blanchard and Lea, 1854. 8vo. pp. 502.

[*In our next.*]

25. On the Severer Forms of Heartburn and Indigestion, especially those which arise from Constitutional Causes. By Henry Hunt, M. D., &c. London: Churchill, 1854. 8vo. pp. 196.

26. Medicines: their Uses and Mode of Administration; including a complete Conspectus of the three British Pharmacopœias, an Account of all the New Remedies, and an Appendix of Formulæ. By J. Moore Neligan, M. D. Edin., M. R. I. A., Honorary Doctor of Medicine, Trinity College, Dublin, &c., &c. Fourth Edition. Dublin: Fannin and Co., 1854. 8vo. pp. 604.

[*For obvious reasons we say no more than announce the publication of the Fourth Edition of this Work.*]

27. First Annual Report of the Medical Officers on the State and Management of the Asylum for the Insane Poor of the County of Norfolk. Norwich, 1854. Pamphlet, pp. 78.

PERIODICALS WITH WHICH THE DUBLIN QUARTERLY JOURNAL IS EXCHANGED.

GREAT BRITAIN.

1. The British and Foreign Medico-Chirurgical Review and Journal of Practical Medicine. Published Quarterly. London: Churchill, and Highley. (Received No. 26.)

2. The Edinburgh Medical and Surgical Journal; exhibiting a concise View of the latest and most important Discoveries in Medicine, Surgery, and Pharmacy. Published Quarterly. Edinburgh: Black. (Received No. 199.)

3. The Retrospect of Medicine, being a half-yearly Journal, containing a retrospective View of every Discovery and practical Improvement in the Medical Sciences. Edited by W. Braithwaite. London: Simpkin and Co.

4. The Half-Yearly Abstract of the Medical Sciences, being a practical and analytical Digest of the principal British and Continental Medical Works, &c. Published Half-Yearly. Edited by W. H. Ranking, M. D., and C. B. Radcliffe, M. D. London: Churchill.

5. Pharmaceutical Journal and Transactions. Published Monthly. London. Edited by Jacob Bell. (Received regularly.)

6. The London, Edinburgh, and Dublin Philosophical Magazine and Journal of Science. Conducted by Sir D. Brewster, R. Taylor, Sir R. Kane, W. Francis, and J. Tyndall. Published Monthly. London: Taylor. (Received regularly.)

7. The Chemist, a Monthly Journal of Chemical Philosophy and of Chemistry. Edited by J. and C. Watt. London: Highley. (Received regularly.)

8. Medical Times and Gazette. Published Weekly. London: John Churchill. (Received regularly.)

9. Medical Association Journal. Edited by John Rose Cormack, M. D. Published Weekly. London: Honeyman. (Received regularly.)

10. The Journal of Psychological Medicine and Mental Pathology. Edited by Forbes Winslow, M. D. Published Quarterly. London: Churchill. (Received No. 26.)

11. Quarterly Journal of Microscopical Science: including the Transactions of the Microscopical Society of London. Edited by E. Lankester, M. D., F. R. S., &c., and G. Busk, F. R. C. S. E., F. R. S., &c. London: Highley. (Received regularly, except No. 5.)

12. The Glasgow Medical Journal. Published Quarterly. Griffin and Co. (Received regularly.)

13. The Athenæum—Journal of English and Foreign Literature, Science, &c. Published Weekly. London. (Received regularly.)

14. The Westminster Review. Published Quarterly. London: John Chapman. (Received regularly.)

INDIA.

15. The Indian Annals of Medical Science; or, Half-Yearly Journal of Practical Medicine and Surgery. Calcutta: Lepage and Co. (Received No. 1.)

AMERICA.

16. The American Journal of the Medical Sciences. Edited by Isaac Hays, M. D. Published Quarterly. Philadelphia: Blanchard and Lea. (Received regularly.)

17. The Medical Examiner and Record of Medical Science. Edited by S. L. Hollingsworth, M. D. Published Monthly. Philadelphia: Lindsay and Blakiston. (Received regularly.)

18. The New York Journal of Medicine and the Collateral Sciences. Edited by S. S. Purple, M. D., and S. Smith, M. D. Published Monthly. New York. (Received regularly.)

19. The American Journal of Science and Arts; conducted by Professors Silliman and B. Silliman, Jun., and J. D. Dana. Published Bi-monthly. New Haven. (Received regularly.)

20. The American Journal of Insanity. Published by the New York State Lunatic Asylum, Utica, Quarterly. (Received Vol. X. No. 3.)

21. The American Journal of Dental Science. Edited by C. A. Harris, M. D., A. A. Blandy, M. D., and A. S. Piggot, M. D. Published Quarterly. Philadelphia: Lindsay and Blakiston. (Received Vol. III. No. 3, and Vol. IV. No. 4.)

22. The Boston Medical and Surgical Journal. Published Weekly. Boston: Clapp. (Received regularly, except Part 282.)

23. The Charleston Medical Journal and Review. Edited and Published by D. J. Cain, M. D., and E. P. Porcher, M. D. Published bi-monthly. Charleston, S. C. (Received very irregularly; our Set is deficient in No. 1 of Vol. VI., and in the whole of Vol. VII., which we will thank the Editors to forward to us if they wish the Exchange to be continued for the future.)

24. The Stethoscope. A Monthly Journal of Medicine, &c. Edited by Committee of the Medical Society of Virginia. Published Monthly. Richmond: Virginia. (Received very irregularly. Nos. 2 and 3 for this year not received; our Set is deficient in Nos. 2, 3, 4, 5, 11, and 12 of Vol. I., and Nos. 1, 3, 4, 5, 7, 8, 9, and 11 of Vol. II.)

FRANCE.

25. Gazette Médicale de Paris. Published Weekly. Paris. (Received regularly.)

26. Journal de Chimie Médicale, de Pharmacie, de Toxicologie, et Revue

des nouvelles, scientifiques, nationales et étrangères, &c. Published Monthly. Paris: Labé. (Received regularly.)

27. Journal de Pharmacie et de Chimie, &c. Published Monthly. Paris: Victor Masson. (Received regularly).

28. L'Union Médicale, Journal des intérêts scientifiques et pratiques, moraux et professionels du Corps médical. Published three times a Week. Paris. (Received regularly.)

29. La Lancette Française, Gazette des Hôpitaux civils et militaires. Published three times a Week. Paris. (Received regularly.)

30. Le Moniteur des Hôpitaux, Journal des Progrès de la Médecine et de la Chirurgie Pratiques. Redacteur en chef: M. H. de Castelnau. Paris. Published three times a Week. (Received regularly.)

31. Revue Médicale Française et étrangère, Journal des Progrès de la Médecine Hippocratique. Published twice a Month. Par J. B. Cayol. Paris. (The last Number for 1853 not received.)

32. Revue Médico-Chirurgicale de Paris. Sous la Direction de M. Malgaigne. Published Monthly. (Received regularly.)

33. Archives Générales de Médecine; Journal Complémentaire des Sciences Médicales. Published Monthly. Paris: Labé. (Received regularly.)

34. Bulletin de l'Académie Nationale de Médecine. Published Monthly. Paris: Baillière. (Received.)

35. Mémoires de l'Académie de Médecine. Vol. XVIII.

36. Revue de Thérapeutique Médico-Chirurgicale. Published twice a Month. Paris: Dr. A. Martin-Lauzer. (Nos. 1 and 5 for this year not received.)

37. Journal de Médecine et de Chirurgie Pratiques a l'Usage des Médecin. Published Monthly. Par Lucas Champonnière. Paris. (Received regulary.)

38. Journal des Connaissances Médicales pratiques et de Pharmacologie. Published twice a Month. Paris. (Received regularly.)

39. Annales Médico-Psychologiques. Par MM. Baillarger, Brierre de Boismont, et Cerise. Published Quarterly. Paris: Victor Masson. (Received regularly.)

40. Bulletin Général de Thérapeutique, Médicale et Chirurgicale. Recueil pratique. Publiée par le Docteur Debout. Published twice a Month. Paris. (Received regularly.)

41. Repertoire de Pharmacie. Recueil pratique. Par M. le Dr. Bouchardat. Published Monthly. (Received regularly.)

42. Archives d'Ophthalmologie, comprenant les travaux les plus importants sur l'Anatomie, la Physiologie, la Pathologie, l'Hygiène et la Thérapeutique de l'Appareil de la Vision. Par M. A. Jamain, Docteur en Médecine, &c. Published Monthly. Paris. (Received regularly.)

43. Gazette Médicale de Strasbourgh. Published Monthly. (Received regularly.)

44. Revue Thérapeutique du Midi, &c. Publié par le Dr. Louis Saurel. Published twice a Month. Montpellier. (Received regularly.)

45. Journal de Médecine de Bordeaux. Redacteur en chef, M. Costes. Published Monthly. (Received regularly.)

BELGIUM.

46. Annales D'Oculistique. Fondées par le Docteur Florent Cunier. Published Monthly. Brussels. (Received regularly.)

47. Nouvelle Encyclographie des Sciences Médicales. Publiée par une Société de Médecins. Published Monthly. (Received regularly.)

48. Annales et Bulletin de la Société de Médecine de Gand. Published Monthly. (Received regularly.)

GERMANY.

49. Zeitschrift für rationelle Medicin; herausgegeben Von Dr. J. Henle and Dr. C. Pfeufer, Professoren der Medizin an der Universität zu Heidelberg. Published Monthly. (Received Vol. IV. No. 2.)

50. Der ärztliche Hausfreund, herausgegeben von R. Froriep. Landes-Industrie-Comptoir, in Weimar. (Received regularly.)

51. Zeitschrift der Kais. Kön. Gesellschaft der Aerzte zu Wien. Redacteur: Professor, Dr. Ferdinand Hebra. (Nos. 3 and 4, of Vol. VIII., not received.)

52. Vierteljahrschrift für die praktische Heilkunde, herausgegeben von der medicinischen Facultät in Prag. Published Quarterly. Karl André. (Received regularly. Parts 2 and 4, 1851, and Parts 2 and 3, 1850, not received.)

53. Annalen der Chemie und Pharmacie. Herausgegeben von F. Wöhler und J. Liebig. Published Monthly. Heidelberg. (Received regularly, except Vol. LXXXV. Part 3, Vol. LXXXVI. Part 1, and Vol. LXXXVIII. arts 2 and 3.)

54. Canstatt's Jahresbericht über die Fortschritte der gesammten Medicin in allen Ländern, im Jahre 1852. Redigirt von Pr. Scherer, Pr. Virchow, und Dr. Eisenmann. Würzburg: Stahel. (Received regularly.)

55. Journal für Kinderkrankheiten. Herausgegeben von Dr. Fr. J. nehrend und Dr. A. Hildebrand. Published Monthly. Erlangen: Palm und Enke. (Received regularly.)

56. Archiv für pathologische Anatomie und Physiologie, &c., Herausgegeben von R. Virchow. Berlin. Published Monthly. (Received Vol. VI. Part 2.)

SWITZERLAND.

57. Verhandlungen der Naturforschenden. Gesellschaft in Zurich. Published Weekly. (Not yet received.)

HOLLAND.

58. Nederlandsch Lancet. (Received Numbers for July and August, 1853.)

DENMARK.

59. Bibliothek for Læger, Tredie Række. Udgivet af Direktionen for de classenske Literaturselskab. Redigeret af Dr. Dahlerup. Published Monthly. Kjobenhavn. (Not received.)

60. Hospitalsmeddelelser. Copenhagen. (Not received.)

NORWAY.

61. Norsk Magazin, for Lægevidenskaben, udgivet af det medicinske Selskab i Christiania. Redigeret af W. Boeck. Faye. A. W. Münster. Lund. Voss. Published Monthly. Christiania: Feilberg & Landmark. (Nos. 4, 5, and 6, for 1853, not received.)

SWEDEN.

62. Hygiea, Medicinsk och Pharmaceutisk Månads-Skrift. Published Monthly. Stockholm: Fritze. (Part 11, for 1850, and Parts 9 to 12, 1849, not received.)

ITALY.

63. Gazzetta Medica Italiana Federativa Toscana. Florence. Published Weekly. (Received regularly.)

64. Bulletino delle Scienze Mediche. Publicato per cura della Società Medico-Chirurgica di Bologna. Published Monthly. (Received regularly.)

65. Giornale Veneto di Scienze Mediche. Published Monthly. (Received regularly.)

SPAIN.

66. El Siglio Medico (Boletin de Medicina y Gaceta Medica). Madrid. Published Weekly. (Received regularly, except Nos. 33, 82, and 154.)

67. El Heraldo Médico. Edited by Professor G. de le Vega. Madrid. Published Weekly. (Received irregularly.)

NOTICES TO CORRESPONDENTS.

The Report of the Meetings of the Association of the College of Physicians for the present Session will be commenced in our next Number.

The Proceedings of the Pathological Society of Dublin which appear in our pages are edited by Professor R. W. Smith, and those of the Dublin Obstetrical Society by Dr. E. B. Sinclair, the Secretaries of the respective Societies.

We are assured by the Engraver, Mr. Holl of London, that the Portrait of Dr. Stokes, referred to in our Notices to Correspondents in February last, will be ready without fail in sufficient time for our next Number. The delay has been caused by the residence of Mr. F. W. Burton, the artist, in Munich.

Several packages of American Journals and Books have been recently sent to us charged with heavy Postage; these, according to our usual custom, we have declined to release.

Books and Periodicals published in Northern Europe, intended for our Journal, should be transmitted "For the Editor of the Dublin Quarterly Medical Journal, care of Messrs. Williams and Norgate, London." Our Correspondents in France, Belgium, Southern Germany, Italy, and Spain, are requested to communicate with us through "Doctor Higgins, 30, Rue Rivoli, Paris."

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PART I.

ORIGINAL COMMUNICATIONS.

ART. I.—*Observations on the Treatment of Diabetes Mellitus.*

By SIR HENRY MARSH, Bart.

DROPSY should have been the subject matter of the following paper. The further consideration of the causes of dropsy I am compelled to postpone. In the next Number of this Journal I hope to resume this interesting subject. I was unable, from a variety of interrupting causes, to put together as I would wish the facts and observations which, in so expanded a field of inquiry, are necessary to show the true nature and causes of obstructive dropsy. A few pages of this Number of the Journal I shall occupy with scattered practical remarks, derived from the *disjecta membra* of lectures formerly delivered at Steevens' Hospital, on diabetes mellitus. Many years have passed since I published in the Dublin Hospital Reports a treatise on this subject. Since that time I have had numerous opportunities of testing the various modes of treatment which have from time to time been recommended. Of these, many on trial have been found wanting, and have been consigned to oblivion. Others, however, are of a totally different character, and hold a deservedly elevated rank amongst the really valuable modes of treating this disease. Great praise is, I think, due to M.

Bouchardat, Professor of Hygiene to the Faculty of Medicine of Paris, for his able researches. How far they may in theory be true it is not my purpose now to inquire. On chemical analysis his practical results are based. It is one of the many instances in which the application of chemical science has greatly contributed to the advancement of the practice of medicine; perhaps in no forms of morbid action more prominently than in those involving functional derangement of the kidneys. Experience, and that, too, in a wide and varied range of cases, convinces me that the labours of M. Bouchardat have done much towards rendering diabetes mellitus more submissive to remedies.

The first great step towards a curative treatment of this fatal disease was made by Dr. Rollo: to him are we indebted for an exclusively animal diet as a therapeutic agent. The change wrought in the quantity and quality of the urine, by an abstinence from all save animal food, cannot fail to be appreciated by even the most careless observer. In early life I submitted this mode of treatment to the test of strict observation. Few, very few indeed, could be prevailed upon to adhere to a diet so restricted. When adhered to for a few days a very remarkable change was observed. The urine, though not considerably altered in density, was greatly diminished in quantity, and lost nearly altogether its saccharine quality. To the majority, the diet, exclusively animal, became insupportable; I have heard some say that death would be far preferable to such a regimen[a]. It must be remembered, too, that an inordinate appetite is not an *uniform* symptom. I have met with cases in which the appetite was below, not, as generally happens, above the standard of health. In some instances, though at first there was a voracious craving for food, yet after a time this symptom had in a great measure subsided, and animal food, except in moderate quantity, caused epigastric distention, oppression, tenderness, and other signs of indigestion. When the appetite is impaired, it frequently happens that the stomach revolts from, and refuses to digest, animal food. To such cases Dr. Rollo's treatment is absolutely inapplicable. Still, the manifest improvement in the condition of the urine, resulting from Dr.

[a] Four shipwrecked Russian sailors were cast on a barren shore in a high northern latitude: there they remained for four years; during that time they never tasted vegetable food,—they lived exclusively on flesh and fish laboriously acquired. There is, however, a vast difference between the stomach of a healthy man and that of one labouring under diabetes. I may here add, that fish, in moderation, and eggs constitute an excellent addition to the bill of fare of the diabetic patient.

Rollo's discovery, renders it a valuable and important item in the general dietetic management of this most intractable disease. As an adjunct to the whole system of treatment, the judicious adaptation of animal food is in no small degree conducive to the wished-for result. It is, however, a great improvement, that a considerable variety of vegetables may be superadded, and thus, though in suitable cases the diet may be chiefly animal, yet, mixed with vegetables such as do not aggravate the disease, the loathing which food exclusively animal produces may be perfectly obviated. Another advantage also arises from the admixture of vegetable matters: it aids in preventing the obstinate constipation which so frequently in this disease prevails. When the aqueous fluids are superabundantly excreted by the kidneys, the fæces become dry, hard, and difficult of expulsion, so that constipation, a most troublesome symptom, is undoubtedly aggravated by a diet purely animal. Often have I observed, in cases of ordinary dyspepsia, that the bowels of patients restricted in diet to bread and meat become obstinately constipated; daily aperients were required. On the addition of well-cooked vegetables to the daily food, the aperients, after some days, became no longer necessary.

To the diabetic patient those vegetables, such as cabbage, celery, salads, &c., which do not abound in starch and sugar, may be advantageously granted. The potato I have found to disagree more than any other vegetable. Carrots, turnips, beet-root, parsnip, and other sugary vegetables, should be strictly prohibited. With regard to bread, so necessary an article of daily food, there is a difficulty. It has been in a great measure surmounted,—excellently good bread can be made with flour from which the starch has been extracted and washed away. The gluten-bread, well cooked, is unobjectionable, and constitutes a valuable addition to the varied list of articles admissible in the treatment of saccharine diabetes. Where gluten-bread cannot be procured, hard biscuit thoroughly baked, and bread cut thin and well toasted, constitute the best, but an imperfect substitute. When the appetite is inordinate and the digestion rapid, the admixture of oleaginous substances, such as oil, butter, cream, and fat, with vegetable matters, is especially suitable, and adds much to the palatableness of the food. Ale and all malt liquors are inadmissible; so are milks in all their varieties. This restriction need not, however, be extended to curd and cheese, nor, as already stated, to cream. All drinks containing sugar and the vegetable acids, should be prohibited; the mineral acids, and al-

cohol sufficiently diluted, may be permitted, and light, bitter infusions, as those of chamomile, bitter orange, hops, quassia, &c.; also tea and coffee without sugar. No pains should, however, be taken to render drink palatable, inasmuch as there is no point of more vital importance than that of limiting to the utmost possible degree the amount of fluid taken daily into the stomach. This I have found the sorest trial to which the diabetic patient can be subjected; yet it is one to which, if he hopes for a cure, he must submit. It is a curious and interesting fact, that if the patient resolutely endure the torture of thirst for a week or ten days, contented with moistening the mouth continuously, or inhaling the vapour of hot water, or chewing some hard material, the urgency of the thirst abates and the struggle ceases. Creasote too possesses, in some cases, the property of mitigating and even allaying thirst: this effect I have known it to produce; and Dr. Neligan has furnished me with the particulars of a case of saccharine diabetes, in the treatment of which two drops, gradually increased to five, proved, for a time at least, in this respect very beneficial. Thus a most important step towards the cure of the disease is made. It is scarcely necessary to add, that it requires much determination on the part of the physician, and still more on the part of the patient, to bring about this desirable end. If the rule be broken, the more the patient drinks, the more the dryness of the mouth and the ardent thirst will increase.

In the few instances in which I have been permitted to make a post-mortem examination the great dilatation of the stomach and distention of its vessels have been especially notable. If there were no other reason,—none of a chemical nature and character,—this constitutes a strong one for not, in the treatment, adding to the existing distention.

The distention of the stomach is favoured by the enormous ingurgitation of liquids by, and also the extreme voracity of, some patients. In a few hospital cases I have seen the craving desire for both solids and liquids rise to even a disgusting height: offal and the foulest drinks being, despite all remonstrance, copiously and furtively swallowed. The treatment of diabetes mellitus will not succeed if reliance be placed exclusively on dietetic remedies; other co-operating means should be employed in order to attain an end so difficult of accomplishment. One of the most valuable is the excitation of cutaneous excretion. The importance of this means in controlling the symptoms was many years since urged in the treatise which I published on the subject. Experience has, I think, fully borne me out in the utility of the treatment there strongly re-

commended. In several cases which I have treated I have found the marked advantage of maintaining not a profuse, but a continuous and augmented cutaneous excretion. Within the scope of this observation I do not include those exceptional cases in which the disease, protracted and intense, has so undermined the constitution, and infringed upon the vital powers, as to leave no reasonable hope of arresting its fatal progress. Nor do I include those in which, owing to the waywardness or obstinacy of the patient, or to inevitable disturbing causes, mental or corporeal, all treatment is spoiled; nor those in which a formidable superadded disease foreshows the impending doom. There are many maladies, some curable, some incurable, with which diabetes is apt to be complicated. It is quite a mistake to imagine that its symptoms are uniform and uncomplicated. It is far otherwise; often on this very account the treatment must be, in many points, modified and adapted.

Occasionally—happily not often—one encounters a case of this malady so intensely, even from the starting-point, acute as to render all remedial appliances ineffectual. Generally, the disease is gradual in its formation, and gradual in its growth; months may often elapse ere it reduce the patient to utter hopelessness. Time is afforded for treatment, for systematic treatment, capable, as I now believe, either of converting an acute case into a chronic, or in chronic cases of removing every symptom of the disease. It cannot, however, be too often repeated, that in the accomplishment of the object no single remedy is to be relied upon. The combined operation of many agencies is as necessary to the treatment of this as it is to a very large class of other diseases. Amongst the co-operating agencies, the full and well-maintained action of the skin stands prominently forward. As a general rule, I would observe, that any mode of operating on the skin which issues in a depression of the vital powers must needs be pernicious. Hence it happens that amongst the means of softening the skin, and enforcing moderate transpiration, muscular exercises, daily augmented, and warm clothing, are superior to all other. It may be well to remark that, in some cases, such is the languor, such the sinking, such the debility (referred especially to the knees), and such the feeling of hopelessness and despondency, that the first efforts at muscular exercise are in the highest degree irksome; the patient deems such efforts impracticable. Yet, it is wonderful (the primary *vis inertiæ* having been overcome), with what rapidity the muscles advance in the power of increasing action, and the good thence resulting establishes in the patient's mind the efficacy of the remedy. The poor

man I have, I may say, compelled to work with his spade, at first but a little each day, and then more and more, till at length he is enabled to execute a good day's work, and to walk over progressively increasing distances. The rich, in the same progressive manner, to ride on horseback, to walk, to play at rackets, at billiards, to fence, varying and augmenting the daily amount of muscular exercise. In all cases amenable to treatment, muscular exercise, judiciously regulated, and fully carried into effect by the patient, aids materially in promoting the ultimate cure. The tepid bath, at 96° or 98° Fahrenheit, repeated daily, or on alternate days, softens the skin, and promotes the freedom of its action. In severe cases the patient being, as it were, hide-bound, the skin arid and unyielding, the cuticle thick; then it is that the vapour-bath (so applied both as to heat and duration that it shall not debilitate) is singularly efficacious as a first step in relaxing the skin. This once effected, muscular exercises will maintain a moderately perspiring state. The object is thus far better attained than by internal diaphoretics. There are, however, instances in which diaphoretics are useful in causing the skin primarily to relax. In reference to the various modes of exciting diaphoresis, I would direct the attention of the reader to my treatise already referred to. There, in the zeal of juvenile authorship, I put this treatment forward as in some instances effecting a cure. Since then I have had many opportunities of testing the value of the cutaneous treatment, not as a cure, but as an efficient auxiliary: I would not now, in any case, place exclusive reliance upon it.

Furthermore, I have seen two cases of diabetes mellitus well marked, in which the pores of the skin were spontaneously opened, and in one case the diaphoresis was profuse. These are exceptions to a general rule, and even in these instances the diaphoresis was secondary, and not primary[a]. It did not take place till long after the disease had been fully established, and was accompanied by a marked mitigation of the distressing symptoms, neither were the thirst nor the dryness of the mouth so urgent as in the more usual cases of this malady. The internal medicine which, when the difficulty of producing diaphoresis is extreme, I have found most useful is a combination of Dover's and James' powders. In this the most efficient ingredient is opium; very remarkable indeed is the influence which opium exercises over the symptoms of diabetes. By it the quantity excreted from the kidneys is diminished, the urine

[a] In cases complicated with phthisis, the sweating is caused by the tubercular disease of the lungs.

is rendered less saccharine. Though it does control the symptoms, yet in no instance have I found it permanently to ameliorate the condition of the patient. I have seen, years ago, the opium treatment long persisted in, and the successive doses increased to an almost incredible amount, and yet nothing gained beyond a temporary mitigation of the more urgent symptoms. If long persisted in, its effects are pernicious, and the moment it is withdrawn every essential symptom reappears. It seems for a time to stem the torrent, but has not the power permanently to obstruct the overflow. I have often been amazed at the hugeness of the doses of opium which have been with apparent impunity administered. Strong indeed must be the morbid action in the system which, in like manner as agonizing pain, is capable of neutralizing the largest doses of this poison,—doses which to one in health and unhabituated would prove rapidly fatal. Intense morbid action or pain is capable of effecting that impunity, rapidly and at once, which it would require months of habituation to bring about in a healthy individual. The largeness of the dose of a narcotic poison which may safely be borne becomes in some degree a measure of the intensity of the morbid action. Advantage may be taken of the singular effects of opium in controlling the symptoms of diabetes in the incipient stage of the treatment,—in the effort to convert an acute case into a chronic. It is in such cases that I have found a few doses of opium singularly beneficial in pioneering the way to other and more efficient treatment. It will frequently suspend the virulence of the symptoms.

If there be no irritability of the stomach, the combination of Dover's and James' powders already alluded to, I have, as a first step in the treatment, found eminently beneficial. If the stomach be disturbed by this combination, the watery extract of opium, repeated in a suitable dose every fourth or sixth hour, will, without causing nausea, produce analogous effects. The preference is, however, to be given to the powders, on account of their well-known diaphoretic properties. The dose should be repeated every four hours.

Amongst the agents capable of controlling the saccharine diathesis may be enumerated the alkalies. Of these, that which I have found the most useful is a combination of lime water, ammonia, and soda, given about an hour after each meal. Years ago I met the late Dr. Colles in consultation. The case was a severe one of diabetes; I asked him what he would propose to give. He replied, lime water and hartshorn. I asked him on what principle he proposed the remedy? His answer was: "I know nothing about the principle, but I know the fact, that it

does more good than any other medicine." And so it did in the case we consulted about. I state the answer in his own words because it was so characteristic of that eminent man whose departure from amongst us we have all had such reason to deplore. In the observation, memory, and application of facts he greatly excelled.

I well remember the time when reiterated and large bleedings were in vogue as a specific in this disease. I have seen several cases treated on this, the Sangrado system, and, as far as my observation has reached, with no other result than that of hurrying the disease onward with accelerated velocity. The first, and even the second bleeding, wore an encouraging aspect; they were well borne and seemed to do good; every successive bleeding was followed by an aggravation of the symptoms. It is a mode of treatment which, from my observation of its results, I should in the strongest terms deprecate.

Yet it should not be argued from this statement that in the treatment of diabetes bleeding in any shape or form should never be resorted to. I have seen it most useful when fever from any cause has been kindled up, and when an inflammatory disease has been superinduced. I saw a patient labouring under severe diabetes die of intense inflammation of the larynx and epiglottis, accompanied by ardent fever. He should, in my opinion, have been bled from the arm, and leeches applied to the upper part of the neck. There is no good reason to fear moderate and not too often repeated bleeding. I have seen much benefit derived from cupping and leeching at the epigastrium in cases of diabetes, when the tenderness on pressure, the distention, and sometimes pain, were indicative of unusual turgescence of the vessels of the stomach. Vain and unprofitable would be the task to enumerate the endless variety of specifics with which the periodical press has teemed: no specific has as yet been discovered, and it is probable there never will. There is, however, one medicine, viz., the phosphate of iron, which has been strongly recommended, and which I have seen fully tested. From its action on the system I expected much: the result, though given in the fullest doses and long persisted in, has been disappointment. It appeared to create feverishness, and to augment the dryness of the skin and tongue; but there is undoubtedly in this disease often a marked tendency to fever, and, in its early stages, to inflammatory invasions. Neither has the cod-liver oil, which has been perseveringly given in two hospital cases, been followed by any better success. It seems, nevertheless, a suitable remedy, and merits further trial. In the present state of our

knowledge I would say, that a combined, co-operating, systematic treatment is that which affords the fairest prospect of combating this refractory malady.

I have seen more than one case terminate abruptly in a sudden attack of vomiting. When the stomach, as the phrase is, gives way, it is generally a symptom of evil omen.

Some years ago I saw a gentleman, in his forty-fifth year, who came to Dublin labouring under the disease in a very severe form. About two years previous to my having seen him he had been thrown heavily from his phaeton, and severely hurt in the lower part of the spine[a]. The result of the injury sustained necessitated many weeks' confinement to his couch. About three months after the accident he became first aware of an increased flow of urine. Disturbance during the night, unusual with him, first aroused his attention. His appetite improved, yet he lost flesh. At the time of the injury he weighed 19½ stone; when I saw him, he was reduced to 12 stone. He was emaciated to the last degree; so feeble that, unable to ascend, he was borne in a chair up the stairs of the hotel. The sensation of extreme feebleness was referred to the knees; the skin arid, and, as it were, glued to the subjacent parts; insatiable thirst; failing appetite; peculiar and unmistakable fetor of breath; swollen and ulcerated gums; dark red and somewhat coated tongue; pulse permanently quickened, tense, and wiry; diuresis profuse, not less than twenty pounds in the twenty-four hours, sp. gr. 1044, highly saccharine. Strange to say, the true nature of the disease had not been recognised. I have been surprised at the number of cases I have seen which have undergone a variety of treatment, the real malady having all the while been undetected. Some cases are certainly obscure; the majority, however, are, I may say, at a glance recognisable. A few days after the arrival of this gentleman in town he was seized with vomiting; he vomited large quantities of liquid matters. This vomiting continued, with but brief intermissions, for about thirty hours, when, utterly exhausted, he expired,—his life cut short by an attack of that peculiar form of gastritis which in this disease is apt to arise.

Some time since I was requested to see a gentleman who had been suddenly seized with a vomiting. The attack occurred during the night, he having, according to his own account, eaten something which had disagreed with him.

[a] In some cases the starting-point of diabetes has been, I think, fairly traceable to spinal injuries.

The quantity of dark liquid matter ejected was very copious. Temporary relief ensued after each paroxysm of vomiting; rapidly, however, the fluids were reproduced, and the severe fits of vomiting recurred.

The peculiar and painful expression of his countenance can never be effaced from my memory; an expression neither to be described nor forgotten: it implied not a hope of recovery. The calmness and composure of the sufferer added poignancy to the wasted, haggard visage, the deeply purpled cheeks, the sunken, hollow, blood-streaked, and all but motionless eyeballs. For some hours before death, as if from muscular inability, the vomiting ceased. This gentleman had been for nearly four years previously labouring under the saccharine diabetes. A strict regimen had been enjoined by his medical advisers in London, amongst whom was the late esteemed, intellectually exalted, and truly scientific Dr. Prout. Long and rigorously he had adhered to the rules prescribed, and whilst he did so there was an abatement, even a subsidence, of all the most urgent symptoms. Feeling himself in every way improved, in an evil hour he broke loose from all restrictions, ate and drank as though he were in perfect health. Soon the diabetic symptoms reappeared. Many days had not elapsed till the gastric attack abruptly snapped the thread of life. His age was about 50. No cause could be assigned capable of affording a satisfactory clue to the origin of the disease to which he fell a victim. There was really very little of morbid change to attract attention. The thoracic viscera were all perfectly sound. The stomach was capacious, dark, its vessels congested and turgid. The liver pale, not structurally altered; the kidneys soft, and considerably swollen, enlarged, and highly congested. It is worthy of observation in this case, that the body exhibited no signs of emaciation. On the contrary, beneath the integuments of the abdomen, a layer of fat, an inch and a half in thickness, was found. There were considerable deposits of fat around the heart and kidneys. The body not being emaciated, is in itself a proof to what an extent treatment steadily adhered to is capable of subduing the disease. Had he not departed from the rules prescribed, the probability is, the disease would have been kept in abeyance, and the fatal catastrophe averted.

The leading facts of a case of great interest I shall give in as few words as possible. A lady, aged 22, low in stature, marked delicacy of fabric, who resided many miles from the city, consulted me some years ago on account of a circumscribed and painful œdema, extending from the knee to the ankle of the left leg. There was no superficial redness. The swelling was

considerable, and pitted deeply on strong pressure; it was painful and tender; there was slight accompanying fever. It was a well-marked instance of infra-cutaneous serous inflammation, illustrative of that form of inflammatory dropsy which it is my intention hereafter to describe. The inflammation extended over a large space; its margins were well defined. It presented all the characters, save redness, of a large patch of circumscribed erysipelas. It yielded, after about six days, to the following treatment, viz., perfect rest, mild antiphlogistic measures, and the water-dressing carefully applied. Many months elapsed ere I again saw her. She was then again affected with a precisely similar circumscribed œdema.

I was led (I scarcely know why) to make inquiry about the renal excretion. There was no palpable emaciation, no great amount of thirst, no increase of appetite; in short, no symptom which could lead one to suspect saccharine diabetes. She was a remarkably timid and retiring young person; I experienced many difficulties in acquiring a knowledge of the facts of her case. On examining a portion of her urine, I was distressed on finding the specific gravity 1043, and that it abounded in sugar. The urine was frequently afterwards examined, and uniformly with the same results. After having ascertained the existence of this formidable disease, it so happened that I did not again for several weeks see this patient. When next I saw her she was in bed. The day previously she had driven into town, having eaten, at an unusually early hour, a meat dinner. She did not appear ailing while in the carriage; she took a long drive. On her return home she was seized with violent vomiting, and fainted several times. At the end of eight days she died. Never have I witnessed a more entire prostration of strength. The countenance pallid and sunken; the pulse at the wrist barely perceptible; the heart's impulse feeble in the extreme, its action irregular, intermitting, and disturbed. Nothing containing alcohol was retained on the stomach; even a teaspoonful of brandy largely diluted seemed to kindle up an internal flame, and was quickly discharged. The only article of nutriment which remained on the stomach for any length of time was asses' milk. Copious fluid vomitings recurred every four, five, or six hours. Whatever she had previously swallowed was then, with a large additional quantity of fluid, ejected. The epigastrium was swelled and tender; pressure caused a disposition to vomit. That which most distressed her was the depression—the vast depression—of the vital powers, with a constant sensation of faintness and sinking. There was also a feeling of weight and

oppression she could not shake off. These unceasing sensations rendered her situation pitiable; she dozed restlessly and often, but only for a few minutes. The restlessness and inquietude which preceded each fit of vomiting were painful to witness. On my first seeing her in bed, I perceived that the impression of death was clearly stamped upon her. Such was a painful and well-marked instance of the peculiar form of gastritis which sometimes abruptly terminates the existence of the diabetic patient.

Mr. F., a widower, aged 60, about seven years previous to his consulting me had a severe attack of scarlatina, from which he thinks he never fully recovered. His health and spirits are broken down by grief, from domestic affliction; has lost flesh, complains of intense thirst; tongue dry, and coated with brown fur; *appetite bad;* bowels constipated; perspires after exercise; cannot, however, walk much without causing cramps in legs; pulse 116, strong and regular; urine passed frequently, and in large quantities; sp. gr. 1033, highly saccharine. He was placed on anti-diabetic diet, and directed to drink small quantities of lime water and infusion of bitter orange, when the thirst was urgent; as an aperient, a dessert-spoonful of vinum rhei, in solution of magnesia; a teaspoonful of aromatic spirit of ammonia, in three ounces of Carrara water, three times a day; to use a Sitz bath every night, at 94° or 96°, for ten minutes. At first he was much relieved by treatment. Ten days before his death he was attacked with vomiting, which continued, at short and irregular intervals, until dissolution.

Mr. —— aged 64, till about five months before I saw him, was a healthy, active man. A diarrhœa, which lasted some time, had reduced him much; now complains of urgent thirst, especially after meals; mouth clammy; tongue yellow; pulse 76; appetite moderate; passes between two and three quarts of urine in the twenty-four hours.

October 16th. Specific gravity of urine, 1030. Treatment: anti-diabetic diet; carbonate of ammonia in pill, and lime water.

November 31st. Feels himself much better; the urine from two or three quarts in the twenty-four hours reduced to two pints. The density of the urine 1024, and not a trace of sugar. This case was a good example of the value of treatment perseveringly adhered to.

Miss M——. Urine almost colourless, without urinary or other odour; viscid to the touch; very slight acid reaction. Specific gravity, temperature Fahrenheit, 51°, 1048. On boiling it with water of caustic potash, the urine assumed a fine

claret colour, proving that it contained sugar. The examination of the blood gave the following results:—

Specific gravity at 60° Fahrenheit,	1049
Proportion of serum in 524.5 parts of blood,	251.5
Of clot in the same,	273
Specific gravity of serum at 60° Fahrenheit,	1027

The proportions were taken eight hours after venesection, when the supernatant portion of serum was very clear; but the lower part contained a considerable number of red particles, and the clot was black and very soft. Under a magnifying power of 600 the serum was seen thickly crowded with globules, about one half of which were perfect red particles; a few red particles, with irregular edges, were also to be seen, whilst the remainder consisted of spherical globules, of the exact size of the nucleus of a red particle.

Esther Reilly, aged 40, of spare habit, married, states that about eighteen months ago, during lactation, caught a severe cold by sitting for some time on wet grass. The mammary secretion was suppressed, and her health began to fail. Soon afterwards she observed the quantity of urine increased, until it amounted, as she says, to ten quarts in the twenty-four hours, accompanied by intolerable thirst, and great debility. At present she passes about five or six quarts of saccharine urine in the twenty-four hours: sp. gr. 1040. She complains of weakness, palpitations, thirst, and burning heat of skin. Tongue clean, but dry and tender; appetite good, but not excessive; bowels habitually constipated; pulse, 88; respirations, 15. Bled to five ounces.

Temperature of Ward,	48° F.
Of hand (moist),	95
Of axilla,	95
Under tongue,	95
Of blood (moderate stream),	95
Specific gravity of blood at 74°,	1055

Coagulation commenced in about two minutes, and was tolerably perfect at the end of forty minutes.

Proportion of serum in 526 parts of blood,	224
Of clot in same,	302
Specific gravity of serum, at 55°,	1030.6

The proportions were taken ten hours after venesection, when the serum was of usual appearance, and the clot was dark, soluble, and deficient in firmness.

Of twenty cases of diabetes the density of the urine was

above 1040; in nine, the highest specific gravity, 1053; the lowest, 1023. In four cases albumen was present; in one case oxalate of lime; and in three, lithic acid crystals. In two of the cases the blood was examined, and the relative specific gravity of the blood and urine was as follows:—

Miss M.—Sp. gr. of urine, ...	1048, 51° F.
,, ,, of blood, ...	1049, 60
Esther Reilly.—Sp. gr. of urine, . . .	1043, 48
,, ,, of blood, ...	1055, 74

Some years ago I saw a lady about seventy years of age, who had been long affected with diabetes mellitus, carried off suddenly by gangrene of the foot and leg She complained of coldness in the left limb. A small livid spot on the external side of the great toe caught my eye. On further investigation, I found that all pulsation in that limb had ceased. The pulsation in the right groin was strong—in the left, wholly absent; the artery was totally obstructed. I met in consultation the late Dr. Colles; he told me that he had seen two cases of diabetes terminate fatally from obstructed arteries and gangrene. In this case the gangrene extended upwards, but ere it reached the knee the patient died.

I have seen three cases of diabetes terminate in fatal coma. It so happened that in all these cases opium had been long persisted in, and increased to enormous doses. Many also have fallen under my observation which evinced all the signs and character of tubercular phthisis. Its ingress was slow and gradual, as was also its progress. There are, however, cases on record in which the progress of the pulmonary disease has been extremely rapid. When phthisis had fully established itself, the sugar almost wholly disappeared from the urine. The new morbid action seemed in great measure to supersede the old, just as a diarrhœa will for a time arrest the diabetes. I remember having attended a remarkable case of alternating bowel and kidney affection. It occurred in a gentleman between 40 and 50, who had led a most intemperate and dissipated life. He evinced every sign, in an intense degree, of diabetes, a disease with which he had for a considerable time been affected. Gradually he had lost flesh, strength, and spirits; all his merriment and joviality had forsaken him; the virile powers, which he formerly possessed in an eminent degree, were annihilated[a].

[a] This is not an uniform result. I have noted several cases in which the virile feelings and powers were not, till the system was wholly undermined, extinguished.

The interesting point in his case was, that during the course of the illness the overflow of urine would cease for several days; during this time he would pass great quantities of spongy, barm-like, greasy matter from the bowels. It was scarcely a diarrhœa. Twice or thrice daily were the bowels evacuated, but at each evacuation the vessel (a large one) was more than half filled; the matters expelled from the bowels were consistent, semi-solid, never liquid. He was worn down to a perfect skeleton, and died apparently of mere inanition; a mode of death which, though not preceded by acute pain, nevertheless is one of great suffering and distress.

Not long afterwards I attended a very painfully interesting case, in which the symptoms were in some respects similar, though it was not a case of diabetes. It was one in which large quantities of fæces—such as were described in the last case,—loaded with oleaginous and fatty matter, were daily passed from the bowels[a]. Small, semi-transparent masses of oleaginous matters, which ignited readily and gave out a flame, were mixed largely with the fæces, on the surface of which oily particles were floating. No treatment succeeded in staying the progress of this fatally wasting disease. During the whole course of the disease this patient was jaundiced, sometimes deeply, at other times more slightly: at no time was jaundice wholly absent. Doubtless there co-existed with the morbid action of the bowels some form or variety of hepatic disease. The patient, aged 55, was of delicate constitution, deficient in animal spirits and vivacity, and one who had led an extremely sedentary life. An expression of woe and despondency was at all times impressed upon his wan and wasted visage; even in health his friends observed it was a rare sight to see him look cheerful or happy.

In both of the above cases it cannot be doubted but that the liver was involved in morbid action. The more I contemplate the symptoms of diabetes, the more convinced am I that deranged hepatic function plays a most important part amongst the aggregate symptoms. Two cases I have seen in which great hypertrophy of the liver (in one case extending as low as the crest of the ilium) preceded the fatal issue.

A gentleman now in his sixtieth year, who has been, by steady adherence to rules, a long time perfectly exempted from

[a] There are three cases recorded by Dr. Bright, and one by Professor Greene, in which this interesting symptom was connected with malignant disease of the head of the pancreas. It is probable that in this case also the pancreas was diseased.

every diabetic symptom, has had repeated attacks of jaundice from gall-stones. He is now in the enjoyment of wonderfully good health, and is a remarkable example of the value of systematic treatment undeviatingly persevered in. Much, however, as the hepatic functions appear to be deranged, I cannot speak highly of the effects of mercury. An occasional dose of calomel, combined with cathartics, is undoubtedly useful; mercury given with the view of producing specific effects has been in every instance a failure, nay, worse than a failure. The disease itself appears to resist and prevent the constitutional action of the metal. Under circumstances, however, where one would be disposed to give mercury, I have seen a very decided advantage result from the nitro-muriatic acid internally exhibited, and externally as a foot-bath. The very interesting experiments of M. Bernard tend to prove that the function of the liver is at fault as well as that of the stomach; and that diabetes is more a disease of these associated organs than of the kidneys. A curious very general, but not universal incompatibility belongs to many cases of this disease, viz., the coexistence of a voracious appetite and a consuming thirst.

There are a few points of resemblance between diabetes mellitus and purpura or scurvy. They both are characterized by a distinct and peculiar fetor, both by softened, swollen gums, and wasting of the tissues. Here the parallel ceases. I have seen many cases of purpura terminate in asthenic dropsy[a]. This, at least within the range of my experience, has not happened in diabetes; it is neither characterized by the white or red blood hemorrhages. The vast detraction of the thinnest portions of the blood passed through the kidneys would seem to account for this discrepancy. It explains, too, the very high specific gravity of the blood.

If guided only by what has fallen under my own observation, I should say, that the disease is more formidable, acute, and intractable in the young than in those who have passed the meridian of life.

One of the most acute and rapidly fatal cases I have met with was in a girl only sixteen years old. I have seen no case of diabetes at an earlier age. The urine was of very high specific gravity, and the quantity of sugar excreted very large. She emaciated rapidly, and soon sank into the grave. She was of a highly strumous diathesis. In few hospital cases have I been able to trace with any certainty this diathesis,—not so in private practice. I have found in several cases this hereditary

[a] Dr. Watt relates the case of a child only three years old, affected with saccharine diabetes, accompanied by dropsy.

taint, this imperfection of organization, at the root of the evil. Hence it is that diabetes is so often hereditary; such undoubtedly is the fact—it is often traceable to an hereditary source. The imperfection, parentally derived, implanted in the solids, or the blood, or both, which we term struma, or scrofula, shows itself in after-life, not only in the exhibition of the strumous diathesis generally, but also in a tendency or predisposition to disease in some particular organ or organs. As an example, I have observed numerous whole families highly strumous, in not one of whom did scrofulous disease develop itself in the thoracic or abdominal viscera. It limited itself to the cerebro-spinal system in the forms of convulsions, chorea, epilepsy, intense strumous headachs, hysteria, epilepsy, eccentricities and mania, idiotcy, and paralysis, &c. In contemplating a subject so interesting, and yet so obscure, observation teaches us that this taint, the pregnant source of so many maladies, of so much human misery, descends from parent to child, and establishes in one or more organic structures a latent predisposition, which, when exciting or disturbing causes are superadded, determines morbid action to some one system or organ in preference to any other. Thus it would appear to be, that disturbing causes being superadded, an hereditary taint gives rise to this disease, the treatment of which we are discussing. The same exciting causes which give rise to other diseases are capable of kindling up this likewise, especially if there be an hereditary predisposition to it. Thus, it is sometimes clearly referable to long-continued mental anxiety and grief; to severe and protracted abstractions of caloric; and other disturbing causes. There is no great difficulty, in general, in tracing the symptoms back to causes capable of producing this as well as a long list of other diseases and epidemics. The real difficulty consists in finding out what that is which determines morbid action to one particular part in preference to any other. The study of the laws of struma assists in this iniquiry. As we find that such seemingly small things as tones of voice, peculiarities of manner, gesture, colour, identify, as it were, the child with the parent—just so, local imperfections, in subjection to the law of resemblance, are transmitted from parent to offspring.

Mr. G——[a], aged 64, bilious aspect, apt to be depressed in spirits, and to allow small things to rest heavily on his mind: for years he has been, in varying degrees, labouring

[a] In this instance an hereditary predisposition, for two generations, was distinctly traceable. I have heard of instances in which the disease was transferred from parent to child down to the fourth generation.

under saccharine diabetes. At first, profuse diuresis, very high density of urine, unquenchable thirst, progressive emaciation, languor, depression, and overwhelming debility; appetite rather impaired than augmented. These were the characters of a disease apparently soon to terminate life. Yet, upon his adopting fully the whole of the systematic treatment, in a wonderfully short time he rallied. For three years the symptoms have been kept in abeyance. With determined resolution he adheres to the anti-diabetic regimen—takes as large an amount of walking exercise daily as he can accomplish; every succeeding day a warm bath; he stints himself in liquids (now no longer a difficult task); takes constantly the alkalies after meals, and carefully regulates the bowels. The density of the urine is lowered from 1040, and upwards, to 1026; the quantity not in excess. He is now in a great degree his own physician, measures for himself the density of the urine, and knows how to keep the symptoms in check. In his case the transition from impending death to at least comparative health is highly gratifying; and this, notwithstanding the drawback of oft-repeated attacks of acute sciatica, always affecting the nerve of the right limb. This has from time to time interfered with the daily perspiring exercises, and has more or less caused relapse. I state this case, because it exhibits one of the many varieties of accessory disease to which the diabetic patient is liable, and how many difficulties in treatment spring from this source.

Diabetes mellitus obeys the same laws as other diseases, it presents every shade of variety, from the highest degrees of intensity to the mildest forms of deranged function. Even in its mildest forms it demands the immediate adoption of systematic treatment; it is liable, from even slight disturbing causes, to assume a serious and formidable character. Many, without being in the least aware of it, are labouring slightly under the saccharine diathesis. The disease creeps on, frequently so gradually, that the existence of such a dangerous malady is not for weeks, for months, even suspected. This accounts for a fact of too frequent occurrence, viz., the length of time that the disease has been in existence ere the patient be subjected to the treatment upon which experience has set the stamp of value.

I have at this moment under my care five patients who, when first submitted to the treatment, were (though in varied degrees) so severely affected with diabetes mellitus, and all its wasting consequences, as to give them the character of hopelessness. They have all unflinchingly adopted the treatment, dietetic (including the restriction as to liquids), cutaneous and

alkaline, and certainly with results the most encouraging. It were needless to go through the details of these cases; they have all increased in weight, and three of them to their original standard of health. The diuresis has ceased; thirst is no longer urgent; the density of the urine has diminished many degrees, and scarcely is a trace of sugar to be detected. Satisfactory, however, as the recovery has been, I still am of opinion that they could not with impunity depart from the rules prescribed. Their dietary is quite sufficiently varied and palatable, and there is nothing in the whole plan onerous, nor does it interfere with daily habits and pursuits,—the more active the life led, the more is the ultimate cure promoted. Every one of these patients has passed the meridian of life: at the outset their symptoms, though formidably urgent, were less acute than I have seen them in much younger persons. One of these patients spent the last autumn in the south of France and the Pyrenees, and he told me that during the whole of the time he was there he perspired profusely, and while in that state of perspiration he could, without the least suffering from it, eat every variety of food. This fact, and many besides of the same bearing, tends to establish the value of enforcing, and afterwards maintaining, a full cutaneous transpiration; not, however, depending upon it alone, but combining it with the other essentials of treatment.

There is a remarkable tendency in some hospital patients to practise deception. I remember one patient, a sailor, who carried the system of deception, both as to meat and drink, to an extraordinary length. He was also remarkable for having the front of his blue, shaggy trousers always, as it were, frosted over with innumerable crystals of sugar.

Much of the success of treatment depends upon the intelligence and hearty co-operation of the patient.

I shall not trespass further upon the patience of my readers; many more facts and observations I could easily introduce: those already stated will, I think, suffice to establish the following propositions:—

First. That no single remedy as yet discovered is capable of curing diabetes.

Secondly. That it is one which needs variation and adaptation of remedies, according to age, sex, acuteness of symptoms, stage of disease, and complication with other affections.

Thirdly. That the most successful treatment is the systematic, carried out in all its details, and long persevered in.

Fourthly. That there is a long-persisting liability to relapse if the anti-diabetic treatment be laid aside.

Art. II.—*On some Rare Injuries of Joints, the Result of Accident and Disease.* By Richard G. H. Butcher, Fellow and Member of Council of the Royal College of Surgeons in Ireland, and Examiner in Anatomy, Physiology, and Pathology thereto for five years; Surgeon to Mercer's Hospital, &c. &c.

A patient was admitted into Mercer's Hospital, under my care, on June 1st, 1853, having sustained the following severe, numerous, and complicated injuries:—*Compound dislocation of the right wrist joint, with fracture of the radius and ulna immediately above the radio-carpal articulation; fracture of both bones of the left forearm above the wrist joint, with the articulation extensively laid open in front; comminuted fracture of the left thigh bone, with laceration of the ligaments about the right ankle joint; and finally, denudation of the frontal bone by a jagged wound, from two to three inches in extent, situated above the left brow.* The details of the case were as follows:—E. M., aged nineteen years, a young girl possessed of many personal charms, became the victim of seduction, and was left by her betrayer in a house of ill fame in this city, not many days after she had quitted her own home with him. When she became aware of his desertion, and awakened to her own desolate condition, she could scarcely be restrained from destroying herself. She made several attempts to jump out of the highest windows in the house; to prevent such an occurrence, the sashes were all nailed down, and she was closely watched. The poor creature scarcely took a particle of food, or associated with any one, for four days; and on the evening of the fifth so determined was she to destroy herself by precipitation from the house, that she drew the nails binding down the sash of one of the highest windows (four stories from the ground), and leaped out. She was almost instantly missed, and discovered in the back yard, lying a senseless mass. The occurrence took place not far from the Hospital, to which she was at once conveyed, and I saw her immediately after. Stimulants were administered, frictions employed, heat communicated, and as a result the respirations became more developed and steady, the pulse enlarged and equable, consciousness was gradually replaced, and finally, the restored sensibility was rendered manifest by the prolonged screams of the sufferer from agony of body and mind. On removing the clothes from the patient, the lesions above enumerated were discovered to have taken place. I cannot bring to my remembrance a single instance where the deformity at all approximated the same extent as that represented in the right

arm. The forearm lay partly flexed upon the arm, and midway between supination and pronation, the fingers being tightly clenched upon the palm of the hand; the bones constituting the first row of the carpus were driven upon the posterior surface of the radius, causing a remarkable prominence there, while the triangular inter-articular ligament binding the ulna to its inner edge was torn through, together with the sacciform ligament, thus permitting the ulna to pass inwards, and so increasing the transverse width of the joint. On looking at the joint in front, a lacerated wound, an inch and a half in extent, marked the transverse course of the radio-carpal articulation; through this wound the end of the radius was thrust out; at least two-thirds of the depth of its articulating surface, from before backwards appeared, shining, glistening, and covered with cartilage, or, more accurately speaking, the two external thirds of the articulating surface, to the depth mentioned, appeared through the wound, for there seemed a rotatory displacement; the carpus and hand were driven backwards, at the same time twisted outwards, while the radius was rather rotated inwards, thus presenting the diagonal of the articulating surface in the wound; the flexor tendons passing beneath the annular ligament were thrust to either side, by far the greater mass inwards, thus adding greatly to the deformity in front. In addition to the displacement of the joint, both radius and ulna were broken two inches and a half higher up, a lesion likewise conducive in augmenting the deformity, for the broken fragments tended towards the interosseous space, giving a constricted appearance to the limb at the site of fracture. It may be a difficult matter to conjecture the co-existing occurrence of dislocation and fracture in such close proximity. The following is the explanation I would offer:—The woman when falling to the ground had the arms outstretched, the palms of the hand met the ground, the propelling weight was so great that the radius was thrust forwards and the carpus back, the force being still perpetuated, and the extremity of the radius, as well as the ulna, opposed by a resisting medium, both yielded in their continuity at the point already referred to.

The left forearm presented injuries, likewise, of a very grave nature; a wound, three-quarters of an inch in extent, corresponding to the radio-carpal articulation, lay in front of the joint, communicating with it, and through which the synovia escaped very freely. In this instance, also, the radius and ulna were broken at about the same point as the bones in the right limb; the same explanation which I have offered re-

lative to the production of the compound dislocation of the right wrist occurring simultaneously with fracture of both bones higher up, will also apply here.

Dislocation of the wrist joint, either backwards or forwards, is an accident of very rare occurrence. No matter whether considered in its simple or compound form, the anatomical configuration of the parts would lead us to the supposition that the former, dislocation of the carpus backwards, would be most likely to occur, being facilitated by the direction of the convex articular surfaces of the scaphoid, lunar, and cuneiform bones, which slope more backwards than forwards. However, it must never be forgotten that the direction of the force will determine, in a marked manner, the direction in which the carpal bones may be thrown. Though from the earliest times dislocation of the wrist-joint has been mentioned in books, Dupuytren doubted the possibility of its occurrence, owing to the guarded way in which the articulation is clasped by various tendons. So considerably did Dupuytren estimate the resistance of the several flexor tendons in front, in case of violent extension of the wrist, that he was convinced a force of two thousand pounds' weight would not overcome it. That Dupuytren over-estimated the force requisite to produce the accident under consideration, I have little doubt in my own mind. Velpeau, arguing in the same way, though acquainted with Voillemier's notable case, likewise denied the possibility of a simple dislocation of the wrist, and concludes by considering the question still open as to whether *simple* dislocation of the wrist-joint can take place. Voillemier and Nelaton have shown the existence of such dislocations, the former, by the most careful examination of a complete displacement of the wrist backwards, and of the bones of the forearm forwards[a]. I will not

[a] Voillemier, in the Archives Générales de Médecine, 1839. The following is an abstract of the case (see Cyclopædia of Anatomy and Physiology for a most admirable paper on the Abnormal Anatomy of the Wrist Joint, by Mr. Adams of this city): "Levillan Louis, aged 27, of a vigorous constitution, on the 28th of September, 1839, was admitted under the care of M. le Noris, into the Hôpital des Cliniques (Paris). At the moment of admission he was in a hopeless state, completely insensible, the pupils largely dilated, the respiration stertorous. Amongst other lesions from which the patient had suffered, in consequence of his having fallen into a court-yard from a window three stories high to the ground, it was noticed specially that the left wrist-joint presented a very remarkable deformity, and of such a nature that Voillemier, prejudiced as he said he felt he was that a luxation of the wrist was a great rarity, if not an impossibility, could not help saying to his colleague, M. Dumeril, present at the examination of the patient, that the case before them was one of dislocation of the wrist. Four hours after the admission of the patient into hospital he died. The forearm was semiflexed as well as the hand; the bony plane represented by the metacarpus and the carpus was almost parallel to that of the forearm; the hand was neither adducted

now dwell upon congenital dislocations of the wrist, of which I have had many examples, but shall merely allude to those in which the dislocation of the wrist joint may be effected by steady and gently continued traction, exerted for a length of time upon the part, such as would be perpetuated by the contraction of the cicatrix of an extensive and deep burn. Such a case has been figured by Cruveilhier[a], where the end of the radius was in front of the carpal bones. I have in my possession a cast illustrating dislocation of the carpus forwards, produced likewise by the contraction of the cicatrix after burn. It is thus noticed in my catalogue:—"Cast, No. 199. *Dislocation of the Wrist Joint forwards.* This cast is peculiarly interesting as bearing upon Dupuytren's statement, that dislocation of the wrist joint may be occasioned by disease, while he denies its occurrence as the result of accident. He attributes those cases which have been written about as dislocations of this joint from accident to error in diagnosis, as he had most frequently seen fracture of the lower end of the radius mistaken for it. The particulars of the present case are as follows:—

nor adduced, but had suffered a displacement "de totalite," towards the internal side; at the posterior or inferior part of the forearm there was a salieney formed by the displaced earpus; a line drawn from the summit of this salieney to the phalangeal extremity of the metaearpal bone to the middle finger measured three inches and seven lines, the same length which the uninjured earpus and metacarpus of the opposite side presented; at the inferior and anterior part of the forearm there existed a transverse eminenec, situated about eight lines nearer to the extreme points of the fingers than the posterior salieney, while it projected anteriorly beyond the plane of the palmar surfaee of the hand fully seven lines; the radii on both sides measured alike; the skin was abraded, and a wound about an inch long existed on the dorsal surfaee of the radius near the wrist, at about the level of the superior border of the pronator quadratus. The external lateral ligament and the posterior ligament were lacerated, the anterior completely torn from the border of the radius; some remnants of this structure lay on the front of the earpus; the internal lateral ligament was not torn, but the styloid proeess of the ulna maintained by this ligament and at the same time by the attaehment of the sheath of the flexor carpi ulnaris, had been detached from the body of the bone. Thus all the means of union of the articulations had been completely severed, and the bones of the forearm were only held to the earpus by some bundles of fibres, which passed posteriorly from the triangular ligament to the internal side of the carpus. The radius did not present any trace of fracture; the body of the ulna was also unbroken, but its styloid proeess was torn from the rest of the bone, although still held by ligament and tendon as above mentioned. In the new position which the bones of the forearm had aeeidentally assumed, relatively to the earpus, they eoneealed and lay in front of the whole first range of earpal bones, and had been arrested in their deseent only by the true annular ligament and the tendons of those flexor muscles which pass behind this ligament."

Nelaton has shown (see Nelaton, Elemens de Pathologie, vol. ii. p 408), that disloeation of the bones of the forearm backwards, with displaeement forwards of the earpus, may take plaee as the result of accident, exactly the reverse of Voillemier's ease and of mine.

[a] Anatomie Pathologique. Des Articulations. Folio, Paris, 1829–1832.

Bridget Melia, aged 13 years, was admitted to Mercer's Hospital in 1849, with the dislocation of the wrist-joint forwards, as represented in the cast. The deformity was occasioned by the gradual contraction of the cicatrix, resulting from a burn which she received on the dorsum of the hand and lower end of the forearm seven years previous to the above date. There was total incapacity of flexing the hand on the forearm in the slightest degree, even the most forcible efforts of the surgeon could not accomplish it, so tense and firm was the tendinous cicatrix. The web in this instance was likewise connected to the index finger, which was thrown into a bent position, in the most forcible angle of extension, even to the dislocating of the first phalanx of the finger behind the phalangeal extremity of the corresponding metacarpal bone. The index finger appeared also to have suffered from defective nutrition, as it seemed by comparison much smaller than the others."

The next injury to be considered in the foregoing case is the smashed condition of the thigh. On examination the left femur was easily discovered broken in the centre, the fragments being extensively shattered; so obviously was the bone comminuted, that the thigh appeared a round, misshapen mass; the amount of shortening, by the most careful measurement, fully realized four inches; the leg and knee were everted and rested on their outer side, while the upper fragment, together with the pelvis, were twisted inwards, as the patient writhed in agony from the constant and prolonged spasms which seized upon and agitated the limb. Upon reflection, it is not easy to reconcile how so great an amount of crushing force could be applied to the osseous tissue, without compromising at the same time the continuity of the soft parts; nevertheless, though the integuments were violently contused, together with the several tissues between them and the bone, though vessels were lacerated, and blood copiously extravasated, the disrupted parts were not exposed, they remained protected from atmospheric influences.

In reference to the minor injuries,—the laceration of the ligaments around the ankle, and the wound over the forehead laying bare the frontal bone,—the following are the particulars:—The yielding of the lateral ligaments, from violent twisting of the foot, has been doubted by many authorities, who contend that the osseous projections to which the ligaments are attached will break off before the fibrous tissue yields. However, I have seen numerous cases where both lesions have taken place as the result of violence; in the present instance, the anterior portion of the external lateral ligament was torn

through, likewise the internal lateral separated from the malleolus, together with numerous minor bands torn across in front of the joint; this extensive laceration of the protective tissues about the articulation permitted very free mobility of the foot in almost every direction. The wound upon the forehead was situated above the right brow, between two and three inches in extent, the soft parts were divided down to the bone, and the cut edges were both jagged and uneven. I have now completed an outline of the various injuries sustained by the patient, and it remains to be noticed the rotation in which they were attended to, the modes of treatment adopted, and finally the terminal results.

In the present case hemorrhage was not an alarming or even an urgent symptom, demanding, as it usually does, the immediate exertions of the surgeon for its suppression; as, though the wounds were extensive and deep through the soft parts, the blood issued but tardily: a result ascribable to two powerfully operating causes, viz., the depressed vital powers consequent upon the reception of so severe a shock, and the laceration inflicted on the edges of the wounds by the violence producing them. Such being the case, the thigh first demanded special attention, for to it all the agonizing sufferings of the patient were referred. The amount of shortening was so great,—being fully four inches, as already noticed, owing to the comminution of the bone,—no line of treatment afforded hope of relief, but that which would bring back the shattered fragments to position, restore the limb to its normal length, and maintain it so; such results were only to be achieved by keeping up permanent extension, and to the fulfilment of this end no apparatus promised to be so efficient as the modification of Liston's splint, which I am in the habit of using. In the February Number of this Journal for last year there is contained a paper of mine on the Treatment of Fractures of the Femur, illustrated by numerous cases, where the value of the splint has been demonstrated in every form of fracture to which the thigh bone is liable. I cannot express too strongly the advantages accruing from the mode of practice which I inculcate in fractures of the thigh; a practice which, if carefully followed out, will, in all instances, procure for the sufferer a limb unaltered in its length, and unimpeded in its functions. The apparatus is figured in the paper to which I have referred, both as applied to the patient and detached, with an accurate scale of its proportions given.

In the present instance the traction was continued long and steadily upon the limb for at least fifteen minutes before the

spastic contractions of the muscles could be overcome; absolutely the strained integuments threatened to yield before the normal length could be obtained; this, I think, may be attributed to the very remarkable approximation between the ends of the muscles resulting from the excessive shortening, while, at the same time, it is difficult to reconcile the amount of resistance with the recent occurrence of the accident; the limb, however, after gentle and continued traction, was restored to its full length, and the long splint applied in strict accordance with the rules which I have prescribed: the patient almost immediately expressed herself released from pain and spasms.

In order that the splint should be evenly applied, it is essential that the patient should be placed on a firm bed; in this case a mattress was prepared, covered with a folded blanket; and upon this the patient was laid before the splint was adjusted. If the bed be a soft one, the following are the injurious results which must occur: the pelvis sinks and carries the upper fragment with it; the splint, though lashed to the limb and trunk, cannot go backwards, for its upper end, close to the arm-pit, rests upon the bed, where it is not depressed, owing to the pillows supporting the head, which tend, likewise, to the elevation of the shoulders; thus then the splint retains the straight line in which it was applied, while the thigh and pelvis gravitate backwards; the ends of the broken bone are distorted in their proper axis; the circular turns of the bandage are all displaced, making uneven and irregular pressure, constricting the parts, perpetuating irritation, and ultimately requiring to be removed altogether.

The next indications of treatment pointed to the wrist-joints, and to the dislocated one my attention was first directed; the violence being so recently offered, inflammation, and its tensive results, had not time to seize upon the part, so that by steady and well-directed manipulation the reduction was speedily executed. While Mr. Roe, the resident pupil, held the forearm and made counter-extension, I grasped the hand, drawing it downwards, giving it a rotatory movement forwards, while at the same time I pressed backwards and upwards the projecting extremity of the radius. A splint was then laid along the back of the forearm, extending from the elbow to beyond the tips of the fingers. The splint was wider than the forearm, it was well padded in a particular way: a thick layer of wadding was applied from one end to the other, so as to fill up the interosseous space, and to keep apart from it the broken fragments of the radius and ulna, both above and below the solution of continuity in them; a pad somewhat

conical was arranged between the dorsum of the hand and the splint, so as to support forwards the hand, slightly flexed, with the object of approximating the edges of the wound in front of the joint; a few turns of a bandage were then made to encircle the splint and hand in this position, and steady it so; while the forearm and splint were bound together in a similar way. Thus the lower third of the forearm, together with the wrist joint, were left uncovered, at the same time that the bones were steadied in admirable position. The elevation of the hand forwards from the splint, as already noticed, had the effect of bringing nearly in contact the edges of the wound, through which the end of the radius was thrust.

Owing to two causes, the reaction of the system, and the unavoidable violence offered to the soft parts, the lips of the wound began to yield blood, mixed with synovia, pretty freely. This I did not wish to suppress, but rather encouraged the flow, by the application of flannels wrung out of hot water. The left forearm was steadied upon a splint, and treated exactly in a similar way to the right; the wound was in like manner dealt with. The wound upon the forehead was next attended to; the hair being removed from the front of the head, the flaps were gently drawn together, but not brought into apposition; a warm sponge was laid over the part, and an oozing of blood procured from the wound. Lastly, a wetted roller was applied to the injured ankle, the foot being steadily held at right angles with the leg; several turns of the bandage were first passed round the foot, and afterwards carried upwards, so as to envelop and support the torn ligaments around the joint. This I consider a far better mode of proceeding in injuries about the ankle than making the figure-of-eight twist in the first instance; for by it the undue constriction above the malleoli is guarded against, at the same time that the bandage, if properly put on, permanently retains its position. After this the part was exposed to the air, and evaporation favoured: these several dressings being completed, a full warm anodyne was administered.

9 P.M. On inspection of the patient, I first ascertained that no undue pressure was exerted anywhere by the mechanical apparatus employed. She was comparatively free from pain, all spasms and startings of the thigh having subsided; there was but little uneasiness in either upper extremity; the weeping of blood from the wounds had continued up to a short time before my visit, yet was not accompanied either by depression or sinking of the pulse; all hemorrhage had ceased, though hot stupes were sedulously continued. The forearm

was so efficiently steadied upon the splints that the wounds remained perfectly at rest, and when the bleeding ceased, "glazing" of their surface was not interfered with; the synovia was not oozing out; and to perfect the covering of the traumatic surface I applied collodion very freely, with a few shreds of lint to steady its tenacity. Thus, by the efforts of nature and the application of art, both joints were hermetically sealed up. The wound on the forehead likewise had ceased to bleed, therefore I brought its edges together, and retained them so by straps of adhesive plaster; warm stupes were ordered to be continued over each joint through the night, and an opiate of forty drops of tincture of opium, in a pint of bottled porter, was administered.

June 2nd. Complete reaction; pulse 98, rather full; bowels freed by an emollient enema; a quiet night was obtained by the patient, she had no startings or cramps in the thigh, the length of which preserved its maximum, and the splint, bandages, &c., lay applied, and unproductive of undue pressure or uneasiness. Some slight pain was referred to both wrist joints, particularly the right; there was some tension also about the latter. Again I was careful to satisfy myself that the bandages and splints were fairly adjusted and not exercising undue constriction anywhere, the annoyance being alone referable to the localized injuries. This morning a new symptom has complicated the case, namely, retention of urine. I introduced the catheter, and drew off about a pint and a half of healthy urine. Six leeches were applied above the right wrist, where exposed in front, and four above the left; warm stupes to be continued to each. I readjusted the wetted roller round the ankle, and ordered folds of linen damped in cold water to be laid over the forehead. To have tea and toast for breakfast, and a pint of beef tea, and bread broken in it, for dinner.

9 P.M. The leeching and warm stupes about the joints removed the pain and tension complained of in the morning. Not a drop of synovia has escaped since the wounds were first sealed up. I again applied the collodion; stupes to be continued all night, and the porter and anodyne to be repeated.

June 3rd. Has had a quiet night; pulse full, 96; she suffers no uneasiness whatever from the thigh; the heel was elevated a little from the bed by a few turns of the screw; tensive uneasiness again referred to the right wrist joint; the wound upon the forehead re-dressed; its edges being slightly inflamed, a light poultice was placed over all; diet as on yesterday.

9 P.M. Pain again relieved by the leeching; to continue stupes, porter, and anodyne.

June 4th. 9 A.M. Great vigilance and restlessness through the night; towards morning the patient became exceedingly agitated; she made several attempts to get out of bed, to avoid the presence of friends, whom she imagined were in the ward. She could answer questions collectedly, but would suddenly burst out in immoderate fits of laughter. Through this apparent excitement the pulse was not much altered in character, and there was no fever. The complication of retention of urine, which had existed from the first, passed away, the patient being able to empty the bladder at will. Carbonate of ammonia in combination with blue pill was given, and a full opiate immediately administered; six ounces of wine ordered in divided doses, and beef tea for nourishment. Stupes to be continued.

4 P.M. On visiting the patient I found her tranquil, after having slept for two hours; she quickly recognised me, and reason seemed to be restored without any apparent crisis; she felt better, and was free from pain in the injured parts, and the splints and dressings were not disturbed by the constant restlessness in the morning. To have porter and anodyne as usual.

June 5th. Slept uninterruptedly nearly the entire night, and awoke quite conscious and refreshed. She complains of pain in the right wrist, but the left is free from any uneasiness. Now for the first time, the splints were readjusted, the forearms and hands were placed upon the splints exactly as before, and retained so in a similar way; the wounds were not interfered with, while great caution was observed that their edges should not be separated, or the coatings of collodion disturbed. She was ordered beef tea, wine—four ounces, and stupes to be continued to the arms as before.

9 P.M. Again nervous delirium has been manifest. Ordered a pint of bottled porter, with forty drops of tincture of opium in it, and to be repeated in three hours if restlessness continued.

June 6th. Both opiates were taken on the past night before sleep was procured; when induced, it came on very suddenly, the patient being just before both restless and loquacious. After this she slept uninterruptedly for four hours, and she awoke quite composed. This morning she is quite rational, all the wildness and brilliancy of the eyes gone; the cheeks are pale, and she is unconscious of the recent annoyance, while her whole mind seems prostrated and absorbed by her degradation. The wounds in the forearms continue perfectly closed; no synovia has escaped from either. I reapplied the collodion; the thigh remains as when first put up; the splint has

never been removed, though on three or four occasions the counter-extending lac was changed. I must again refer to my paper on the Treatment of Fractures of the Thigh for the precautions to be observed in this procedure. The wound on the forehead is nearly healed, and the swelling and effusion of blood about the right ankle are considerably lessened, with the repair of the lacerated ligaments favourably progressing.

June 9th. There has been absence of the delirium for the last two days, but it is now again present; she was ordered a grain of opium every third hour; wine, six ounces; chop and beef tea for diet. The injuries demand no special notice; to continue stupes.

9 P.M. More tranquil; porter and opium as usual.

June 12th. There has been no return of the delirium since last report, and all the injured parts remain free from pain; she was ordered to continue a grain of opium three times a day; wine, six ounces; chop; beef tea; eggs beaten up in boiled milk with two ounces of spirits; likewise the porter and opium at night; to continue the stupes.

June 21st. From last report the patient has gradually improved; the nervous system has been composed; no recurrence of the delirium. On this day I re-dressed the forearms, the wounds were quite healed, a curved splint was applied to the anterior aspect of the right forearm, and the hand bandaged to it, slightly adducted, so as to throw out the extremity of the fractured radius. Such a mode of proceeding could not be adopted sooner, as it would militate against the union of the extensive wound in the wrist, and could not be accomplished without having the end of the radius again thrust through the gap. The left forearm was put up with a splint on its anterior and posterior aspects, conical pads being employed to maintain the full breadth of the interosseous space. On this day, for the first time, I readjusted the splint upon the thigh; the limb, after the most careful measurement, was pronounced to be its full length; a considerable amount of thickening in the vicinity of the fracture was remarkable, but by no means that abundant supply of provisional callus which Dupuytren supposed, from his experiments on animals, to be absolutely an essential portion of the process of repair, a result which recent investigations have proved not to be applicable to the human subject. The wound in the forehead was now entirely healed, and from the steady support and pressure afforded to the ankle, its lacerated ligaments were nearly cured. Full diet; wine, six ounces; a grain of opium at night.

July 12th. I removed the splint from the left forearm; bones perfectly united, and no deformity whatever; the splint on the thigh was readjusted.

July 17th. The splint was removed from the right forearm: union between the broken bones is perfect, but the limb is not so straight as the left, owing to the causes already assigned, and which could not be averted by either care or ingenuity; gentle flexion and extension of both wrist joints to be guardedly practised.

July 22nd. Splint removed from the thigh: the union of the bone is perfect, and its normal length preserved. There was no galling at the groin, or marks of undue pressure at the heel or ankle. I applied a roller from the foot upwards to the groin, and placed a few pillows beneath the ham.

July 25th. Already the patient is able to bend the leg at right angles with the thigh; and has gained considerable power over the fingers of both the right and left hands, even so as to be able to execute fine needlework; the flexion and extension, as well as the pronation and supination of the left wrist, are perfect, while the motions of the right are in some measure limited.

August 5th. The patient is now able to move about the ward with the aid of a crutch, and on the 20th she was able to walk without any assistance. On the 9th of September she could walk even without the least impediment or halt in her gait. She was dismissed the hospital, perfectly cured, and received, through the influence of kind friends, into "a house of shelter."

A review of this case embraces numerous interesting points of treatment. The compound dislocation of the wrist, complicated as described; the fracture of the left forearm and extensive wound of the joint, each treated by the local abstraction of blood very freely procured from the cut surfaces, and afterwards by the repeated application of leeches; the closing of the wounds, and the sealing of them hermetically with an artificial covering impermeable to wet; the keeping of the parts immediately in their vicinity bathed in moisture and heat for weeks; the immobility of the wounded parts protected from motion or displacement,—all combined towards the favourable results, preservation of the limbs and nearly perfect motion: the wound over the forehead, laying bare the bone, treated also by detraction of blood from the part, and, after all oozing ceased, apposition of the flaps and retention by adhesive straps. In the lacerated ligaments about the ankle the beneficial effects

from the assiduous application of cold and pressure were strikingly manifest.

The treatment of the thigh by permanent extension cannot be overlooked; all the advantages from its adoption as modified by me, and which I have attempted to lay down in the paper already referred to, are corroborated in a very striking way by the results of the foregoing case. From the time of the application of the splint to the end of the cure, no uneasiness was complained of. From the very first the spastic contractions of the muscles, which threatened to be so troublesome, were subdued, and their convulsive startings checked. Neither inversion nor eversion of the limb was permitted, owing to the construction of the splint; therefore no displacement could occur between the fragments, and the bandages were suffered to remain undisturbed. Twice only within a period of eight weeks, from the reception of the injury to the consolidation of the bone, had the splint to be readjusted,—a fact which proclaims its efficiency; a true test to be duly appreciated by the practical surgeon, for he, from experience, can estimate the beneficial results likely to occur from maintaining the limb at perfect rest in the early stage of treatment, and also in the latter period; in the former, by it, irritation is avoided, fever averted; in the latter, false union guarded against, perfect consolidation of the bone promoted and insured.

It remains now only to notice the distressing complication of traumatic delirium, which was ushered in on the fourth day after the reception of the accidents. In this case the delirium was subject to remission, a type which I have frequently seen prevail. Dupuytren, in similar instances, placed the greatest possible reliance on enemata, consisting of small quantities of opium diffused through a large quantity of fluid, the form being six drops of tincture of opium to a quart. This method he would adopt from the knowledge of the modifications which medicines undergo in the stomach. I do not think the argument holds good, however, as regards the fluid preparations of opium. I have frequently tried Dupuytren's method of treatment, *when admissible*, in delirium tremens, but must candidly acknowledge the results were not such as to confirm the reports given by the illustrious surgeon of France. I have placed in italics the words "when admissible," in consequence of having met with many cases where, from the violence of the patient, such a mode of practice could not possibly be pursued. In the present case of traumatic delirium, the repeated exhibition of opium, stimulants, and nutrition, quieted in a few days the ner-

vous excitement: I remarked before there was no fever present. By this mode of treatment I have been equally successful in numerous cases where the delirium has come on as a complication in bad fractures, occurring in mechanics, who are generally broken down by intemperate habits; and so favourably do I look upon the practice, that when a patient of this class comes into hospital, I at once place him under the influence of opium, gently, and continue it for four or five days, a period which invariably fortifies him against an attack. When nervous and hysterical females become the subjects of accidents, I pursue a similar practice likewise, with the very best results.

The next case which I shall relate presents features also of great practical interest; the details of it have been already noticed in the records of the Surgical Society of Ireland. It may be headed :—

Abscess from Injury, terminating in disease of the Tibia; separation of its Epiphysis; Pyœmia, and Death.

Henry Latuine, aged ten years, was admitted into Mercer's Hospital on the 22nd of February, 1853. It was stated he had received a kick on the inner side of the right knee six months before his admission. Severe pain and swelling rapidly set in over the upper part of the tibia, terminating in the formation of matter. For three weeks a hard, shining swelling appeared, tense, throbbing, and acutely painful, accompanied by high fever, burning skin, rigors, rapid pulse, and restless nights. At length the abscess gave way, diffusing its contents up and down the limb, attended with a remarkable subsidence of the constitutional disturbance. A small opening had been made on the outside of the thigh, a little above the knee, through which a small quantity of matter drained off. A new train of symptoms quickly set in,—night-sweats, occasional diarrhœa, flushings at intervals, and all the concomitants of irregular hectic. The case proceeded from bad to worse, and the patient was received into hospital, on the date above mentioned, in the following condition:—Countenance pale, waxy, but flushes on the least exertion; pulse rapid, 140; respirations very hurried; constant dry cough, with perpetual watchfulness at night, and occasional sweats. On examining the limb, the knee joint, though slightly puffed, bore pressure in all directions; the patella might be forced back, or the tibia struck forcibly against the femur, yet little pain was caused. There was no proof of the joint being seriously involved. Over the part originally injured the integuments were quite elastic,

and on pressure yielded deeply, giving evidence of a large cavity containing pus. Matter was diffused along the outside of the thigh as far as its upper third, and down the leg as far as its middle, and through all the intervening space. The entire surface was extremely tense, and sensitive to the touch. The matter was situated beneath the fascia, and the areolar tissue between the latter and the integuments infiltrated with serum. The leg was, by vital anchylosis, fixed at rather an obtuse angle with the thigh, extension beyond which greatly aggravated the sufferings. The skin of the entire limb presented a furfuraceous coating. On admission, an opening was made three inches above the knee on the outer side of the limb, and another on the outer side of the leg. Through these apertures a very large quantity of fetid pus escaped, but especially so, and tinged with blood and small clots, when pressure was exerted on the cup of the large abscess, corresponding to the inner and upper third of the tibia. On the introduction of a probe from the external aperture, it was ascertained that the tibia was stripped of its periosteum. The leg and thigh were placed in tails, and laid on an inclined plane. The patient was allowed liberal diet, and medicine administered to arrest the alvine excretions, &c. On the 28th of March he had short and restless sleep; face cold, and somewhat livid; eyes brilliant; hair all thinned, and falling off; pulse very small and rapid; respirations hurried and embarrassed, and catching when he tried to speak; the alæ nasi participated in corresponding dilatations and contractions; surface of the body colder than the natural standard; tongue coated, but not much gastric derangement. On removing the tails, &c., to make a careful examination, I found the matter still passing freely up and down the limb. It could also by force be pressed out of the deep cup at the inner side of the leg by a circuitous route. I made an opening into this abscess by striking a bistoury perpendicular to the surface, and cutting freely from within outwards, at least an inch and a half in extent. As the knife divided the parts, it was instantly followed by a large quantity of highly fetid pus, mixed with dark, bloody coagula. On introducing a probe, the head of the tibia, and three inches of its shaft, were found to be stripped of periosteum, and rough. The limb was then carefully rolled, commencing at the foot and extending to the knee, avoiding the apertures. Another roller was applied from the waist down the thigh, as far as the knee, with a hole cut in it over the opening on the outer side. These bandages then approximated the separated tissues both in the thigh and leg, and placed them in the most favourable position for repair, and when the limb

was placed on the inclined plane, the pillow in the ham prevented pouching there, the only part of the limb left unsupported. In accordance with this intention, the opening was not made in the most depending part. He complained this morning of inability to move the right arm. My attention was at once directed to the shoulder, where an examination showed a large abscess occupied the infra-spinous fossa, and an inch below its base; it was characterized by a very imperfect barrier; around, it was very elastic to the touch and communicated a distinct fluctuation. Numerous small veins coursed over its surface. This I could not at the moment open, as the patient was fatigued after being dressed. Wine and full diet.

On examining the chest, slight dulness over the left subclavicular region, extending as low down as the middle of the lung, was detected, and the dry cough attended by sub-crepitating râle.

March 1st. Had sleep through the night; free from pain; countenance pale and livid, particularly the lips; eyes clear and glassy, somewhat sunken; alæ nasi dilated and contracted very rapidly, bearing indication of the hurried and laboured respiration; pulse very feeble, 136. The breath was loaded with the fetor of purulent matter; tongue clean; bowels regular; urine high-coloured, yet in considerable quantity; hue of the entire body of a dusky yellow tinge. On examining the limb, not so painful during the necessary movements, very little matter could be pressed out; the small quantity afforded was mixed with air and small coagula of blood, highly offensive. A small abscess formed in the middle third of the leg; this I gave exit to by incision,—an ounce and a half of ill-conditioned pus flowed out; I bandaged the limb as before. On examining the abscess over the infra-spinous fossa, its measurements were four inches and a half in the vertical and transverse directions; the integuments over it were very thin, and in one point discoloured of a brownish hue. I opened it with a small bistoury, and allowed six ounces of thick, yellow pus, perfectly healthy in its character, and void of smell, to escape. After being emptied, the edges of the wound were brought together with adhesive plaster.

March 2nd. Pulse so rapid as not to be counted; respirations 85 in the minute; wine, &c.; refuses diet.

3rd. Little change in either pulse or respiration, latter more hurried; belly tympanitic. On removing the dressings from the limb, it was quite apparent that the epiphysis of the tibia had separated from its shaft. This was readily ascertained by the introduction of a probe, and also by lifting the leg and foot

from the bed. The line of solution of continuity was evident to every bystander. Limb steadied as before, on the double inclined plane, with pillows and bandages.

4th. Constitutional symptoms as at last report, save that the voice was much more feeble, indeed, scarcely audible. On examination of the limb, the deformity was increased; the condyles of the femur projected in strong relief in front, and the foot and leg lay everted and shortened; very little discharge from either of the suppurating surfaces.

5th. Pulse and respiration extremely rapid; bowels freed three times, and tympanitis increased; chest more dull on percussion, and breath heavily loaded with fetor of purulent matter; skin more of a yellow tinge, and countenance greatly sunken. Ordered stimulants, &c.; turpentine internally and externally.

9th. Countenance more sunken and livid; eyes remarkably brilliant; pulse 90, feeble, scarcely to be felt, and so rapid as not to be counted; respirations 110 in the minute; voice audible only as the faintest whisper; purulent fetor from the breath, if possible more offensive; short cough, but *no expectoration;* limb being in the same position, vitality so low that there was scarcely any discharge.

11th. Rapidly sinking; countenance more of a leaden hue, and lips quite blue; at intervals irregular rigors, and chattering even of the teeth; tongue dry and brown, and teeth covered with a thick, dark paste; the eyes have lost their brilliancy, and the cornea now seemed opaque; secretion was entirely arrested in the limb and shoulder.

14th. Many of the symptoms above noted continued without interruption; the eyes were fixed and staring; he remained motionless for a length of time, and then screamed out in the most shrill, wild manner, and so loud as to be heard in the corridors, far apart from the ward in which he lay. Through this peculiar mode of death he struggled for twenty-three hours, when life ceased.

From the history of this case it would appear that an abscess formed as the result of the injury inflicted over the upper part of the tibia. The matter remained there bound down by strong resisting fascia, unable to gain the surface, closely approximated to the bone, stripping its periosteum, and involving it in ulceration and death; the rapidity of the parts participating in the destructive process being, perhaps, hastened by injury inflicted on their vascular connexion at the time of the accident. While these symptoms were present, the fever was of a purely sthenic character. The expansion of the pyogenic

sac continued, while interstitial absorption removed the parts exterior to it, and at length the sac itself yielded to ulceration; the matter being diffused extensively through the limb, breaking up textures, and disintegrating parts. When such a result occurred, the character of the fever changed, and assumed the asthenic type. No vascular congestion, no fibrinous exudation, limited its track; the parts were submitted to the crumbling agency of ulceration, and thus matters proceeded from bad to worse. Nature made the effort to cast off the dead bone by the process of necrosis, and towards such a result effected the separation of the epiphysis; but she was not able to complete the task; ulceration opened up the posterior wall of the joint, destroying all its ligamentous connexions posteriorly and within, and thus allowing the femur to glide in front, characterizing the deformity already alluded to. The train of alarming constitutional symptoms under which he laboured from the time of his admission into hospital were almost diagnosed from the first, and attributed to the entrance of pus into the circulation. From day to day we had evidence of veins being opened, blood having escaped both in the fluid state and in putrid coagula. There was no reason why absorbents, opened up by ulceration, should not feed on it, and thus pollute the system: but it is most likely that it directly entered the venous system, and was hurried along in the circulation to the right side of the heart, and thence to the lungs, where the globules, broken up or otherwise, were arrested in their progress by the minute capillaries, and, acting as foreign bodies, gave rise to the formation of pus rapidly, because the fever at this period was of a peculiarly asthenic character; and again, that the pus secreted was taken up by the minute pulmonary veins, and conveyed to the left side of the heart, and thence over the system, and was liable to be laid down in any particular tissue; in the free surfaces of joints, or in the structure of muscles, the sural mass, the pectorals, or those around the shoulder, as occurred in this instance. The dulness on percussion, the dry, irritating cough, and, above all, the purulent fetor from the breath, tended towards such a conclusion.

The following were the post-mortem appearances:—The popliteal space was completely emptied of all its areolar tissue, &c., and the popliteal artery, vein, and nerve, passed through quite unsupported. The artery and vein matted together, and surrounded with thick fibrinous layers, evidently thrown out by the vasa vasorum, to prevent the vessels being ulcerated. The two trunks preserved their caliber. I could not detect pus in any of the veins passing from the numerous sinuses in

the limb. The tibia in its upper third was dead; the epiphysis separated from it above, and was placed high up in the popliteal space; while below a narrow, ulcerated line marked the union of the dead and living bone. The periosteum on the healthy part of the tibia was continued superiorly into a thick, fibrous layer, which was one of the steps nature had advanced towards cure. It was apparent that when the upper part of the tibia died, she separated the epiphysis with the intention of bringing about reparation by the process of necrosis; and that this structure was the source from which the new bone was to have been secreted, but she failed in her efforts: the epiphysis itself died; the joint was opened into posteriorly, and all its ligamentous structures within destroyed, even the encrusting cartilages on the condyles of the femur, posteriorly, were rapidly involved in the destruction around, and the femur, from the weight of the trunk above, passed in front of the detached epiphysis and shaft of the tibia, forcibly characterizing the dislocation. On examination of the chest, recent adhesions were found between the pleura on the left side, particularly corresponding to the centre of the lung, that point manifesting greatest dulness on percussion during life. The heart and lungs were then carefully taken from the subject. On inspection, the surface of the lung, especially where the adhesions were torn through, presented a shrivelled, or rather puckered appearance, the elevations being highly elastic, springing to the touch, each permitting the point of the finger to pit, and well defined in its limits. This peculiar appearance was entirely confined to the upper half of the left lung, and especially to the part pointed out. No such semblance presented on the surface of the right lung. Both evidenced posteriorly the ordinary post-mortem congestion, the result of position. On section, the elastic springing points proved to be purulent depôts, not exceeding the size of a small thimble, or the cup of an acorn, and somewhat similar in shape. They were very numerous, and chiefly developed towards the surface of the lung,—each isolated from the other, each surrounded by parenchymatous structure of the lung, denser than in its normal state, and each filled with thick, healthy pus, void of smell. No such changes were to be found in the right lung; it was slightly emphysematous, but in neither could be discovered the least trace of tubercle, and the only morbid alteration whatever was the formation of those pyogenic cysts, and the increased density of the normal tissue around them. The pericardium contained about two ounces of straw-coloured serum. The heart, on section, was healthy both in its walls

and contents. Pus could not be detected in the blood under the microscope. The large abscess, situated beneath the spine of the scapula, did not communicate with the joint, but was confined to the muscular tissue of that region. Pus was not discovered in any of the joints.

The next case which I shall notice presents features of great rarity; and the preparation from which the accompanying illustrations were taken I consider to be perfectly unique.

Peter Kane, aged 50, was admitted into Mercer's Hospital in March, 1853. He had been in the Coast-guard service, and exposed to much hardship, and sometimes even to privations. When on board a vessel, and in the execution of his duty, a large block, upon which there was a heavy purchase, split, a part flew off, and with great violence struck him on the outside of the left knee. Inflammation, attended with swelling and acute pain, followed, but were relieved by leeching, rest in bed, stupes, &c. For some time after, he was liable on over-exertion to sensations of heat in the joint, almost amounting to pain. Scarcely, however, had six months elapsed after the receipt of the injury, when a more fixed and determined pain settled in the joint, at first confined to the site of the injury, but afterwards quickly implicating the entire joint; and as the case progressed, the maximum of pain was most acutely felt at its inner side. At this time he was received into hospital, and relieved by treatment, and afterwards went to the country for change of air. From this period to the date of his admission, as above noted, a long interval of time had elapsed, eleven years, during which period, on several occasions, the patient was under irregular treatment, changing from one institution to another, sometimes greatly benefited, at other times not relieved,—moving from one part of the country to another,—buoyed up with false expectations, terminating in disappointed hopes. On the date above mentioned he submitted himself to my care, fully prepared to undergo any operation which I might consider likely to prolong life. On the patient's admission he was run down and emaciated to an alarming degree by disappointment, prolonged sufferings, and want of sleep. Simple inspection of his countenance bore ample testimony to the inroads of a formidable disease which threatened life; the face was sunken, its expression haggard, with an icteroid tinge over it. The pulse was never below 120. He suffered from repeated attacks of bowel complaint, which frequently alternated with profuse night-sweats. The following were the striking characteristics of the limb:—As the patient lay upon his back,

the leg of the affected side was rotated outwards, while the thigh rested evenly on its posterior surface; the knee-joint presented a somewhat globular form, the integuments being strained over it, and of a dark, livid, red colour; the patella floated, being lifted forwards by a quantity of fluid (supposed to be pus), which distended the synovial membrane and textures around the joint. A fluctuating point lay in front of the patella, between it and the tense skin. The leg, as mentioned, lay rotated outwards; it admitted of rotation inwards, but no lateral or antero-posterior motion, ever so trifling, could be produced. On lifting the leg from the bed, the thigh followed its motions as if the intervening joint was anchylosed; the rigidity of the surrounding muscles did, in some measure, account for this fixity of the bones, but not to the full extent satisfactorily. By the rotatory motions of the joint, which were permitted to a far greater degree than natural, two important points were cleared up, namely, the destruction of the crucial ligaments, and the removal of the incrustating cartilages of the ends of the bones. The conclusion arrived at then, was, that the entire textures were destroyed, ligaments, cartilages, &c.; its capsule burst in several parts, and purulent matter diffused between the tendons and muscles around the articulation. Yet, one strange feature in the case I could not account for, namely, when the crucial ligaments, &c., were destroyed, what prevented the tibia dropping backwards? or why could it not be pressed inwards or outwards so as to represent lateral dislocation? The explanation was in the end amply afforded by the post-mortem appearances. From the most careful consideration of the case in all its bearings, it was quite evident that amputation offered the only chance of prolonging life; and such a conclusion was not arrived at until a very searching examination of the chest and abdomen was instituted, and the organs in each pronounced healthy. Before having recourse to any such measure, it was imperative to try and build up the sinking powers of life by palliative local treatment, the judicious administration of medicine, and the exhibition of nutritious diet. The following were the means employed towards the furtherance of these objects:—The tension of the parts round the joint, as already noticed, being extreme, I freely incised the integuments over its anterior wall and in front of the patella; a large quantity of unhealthy fetid pus escaped. On pressure being exerted upon the sides of the joint, a continuous stream of matter flowed from its interior by a very circuitous route along the outer wall, and discharged itself by the wound inflicted after this incision; a splint was next placed

along the posterior surface of the limb, and fixed above and below, the knee being left exposed for warm applications, &c.; pillows on either side propped it up so as to prevent the least degree of motion. The powers of life were strengthened by the administration of quina and small doses of mineral acids, the nightly exhibition of sedatives, particularly the preparations of morphia, and lastly, by the judicious apportioning of food and wine to the enfeebled assimilating powers. In a short time the influence of this combined treatment was strikingly manifest, and produced a marked appearance for good; and in sixteen days after the patient's admission I considered him in a favourable condition for the removal of the limb. On the morning of April the 15th I proceeded to operate in the following way:—The patient was placed under the influence of chloroform, and the femoral artery was compressed at the groin. Standing on the outside of the limb, and lifting the muscles on the anterior aspect of the thigh with my left hand, I entered a long catlin below the junction of the lower and middle thirds of the thigh on its outer side, and, thrusting it through in front of the bone, cut a flap downwards. I then transfixed, from the same point, passing the knife behind the bone and carrying it downwards so as to form the posterior flap, about two inches longer than the anterior. The flaps, being thus formed, were drawn up by an assistant; a few touches round the bone permitted this effectually, while any irregular fibres that remained close to the bone were divided by the knife being swept in a circular manner round it. The bone was next cut in a semicircular manner by the saw which I have invented,—and which I may here state I prefer in all amputations. It may be asked, what benefit arises from cutting the bone in this way, when it is well known that after a time the sharp edges are removed, and the bone rounded, and even sometimes expanded? I grant all this; but by removing the sharp edges in the first instance, I am convinced irritation of the muscles is prevented, and consequent spasms averted; while, at the same time, at the deepest part of the wound, the bases of the flaps can be applied more accurately to each other than they possibly could be if the bone be preserved with its abrupt edges. (For further advantages resulting from the use of this saw, I must refer the reader to this Journal for August, 1851, where the instrument is figured, and a description of it given.) The femoral artery, the terminating branch of the profunda, and six other arteries, were ligatured; warm sponges being applied, and no other vessel showing a tendency to bleed, the flaps were brought accurately together, and retained so by eight points of suture and adhe-

sive straps. A bandage was applied from the waist downwards, and a compress to support the posterior flap. The limb was removed, and the femoral artery secured in less than a minute; in a few minutes more the patient recovered consciousness; and so perfect was the action of the chloroform that he had no remembrance of what had been done. Wine was administered after, and when the patient was in bed about a quarter of an hour, a full anodyne given.

3 P.M. There has been no oozing of blood, and no pain in the stump of any amount.

16th. Slept all night; no startings in the stump; patient felt great relief from the absence of the limb; countenance cheerful; bowels gently freed, and urine in natural quantity; tea; eggs; wine, four ounces; and a full anodyne at night.

19th. I carefully dressed the stump: flaps lying nicely in contact, and united to a considerable extent; no redness or tension about the sutures, so they were suffered to remain; reapplied adhesive straps, &c.

20th. Removed the stitches; the greater part of the flaps united, while from the internal part of the wound a small quantity of dark unhealthy pus could be pressed out. The patient had but little sleep, and was greatly depressed. It is not necessary to follow up the daily report, but a train of symptoms were ushered in which left no doubt upon my mind that purulent absorption had taken place. The symptoms closely resembled those present in the case of Latuine; they gradually progressed up to the period of his death, on the 28th of the month.

Appearances of the Knee on Dissection.—Numerous sinuses passed around the joint in various directions, more particularly along its outer wall, which communicated with the cavity by a large opening towards the inner side, about the size of a shilling; its edges were irregular and jagged, and by this aperture the joint relieved itself, and diffused its contents beneath the surrounding integuments; from this source was the matter derived that caused the fluctuation in front of the patella. The colour of the pus contained within the joint, and that pervading the sinuses, was of a dark-greenish hue, and of thick consistence. The synovial membrane, the crucial ligaments, the lateral ligaments, were entirely destroyed; the encrusting cartilages of the bones entering into the articulation were altogether removed, and even the cancellated texture of the bone was destroyed, to the depth of some lines in each. On examination of the joint, a full explanation was afforded "why the tibia did not drop backwards, and why there was no lateral

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displacement permitted." To explain the matter, it is necessary to go back to the time when the disease was in an earlier stage: when the cartilages were being progressively removed, nature made the attempt to arrest the process over the inner condyle of the tibia; as soon as its cartilage was destroyed, eburnation of the exposed surface was effected to about the size of a sixpence; while this point was rescued from disease, destruction continued around, and removal of the cancellated tissue of the bone, to the depth of nearly an inch. The osseous matter supporting the polished point was condensed in structure, and this spud of bone projected upwards from the tibia more than an inch. The under surface of the articulating end of the femur was entirely deprived of cartilage, and presented towards the inner condyle a cup or cavity, which received the projecting nodule of the tibia; when placed in that relationship, one within the other, which they held during the life of the individual, the remaining cancellated surfaces of both bones lay accurately in contact, and afforded evidence why the bones were not displaced. This locking of the bones one within the other was maintained by the spastic rigidity of the muscles sending down their tendinous insertions around the joint. That the pressure on the opposed surfaces was continuous and prolonged is, I think, amply borne testimony to by the way in which the hardened piece of the tibia effectually procured for itself a hollow bed in the cancellated tissue of the femur. The specimen is so rare, and the attendant results of so much importance in a practical point of view, that I have thought it well to represent the abnormal arrangement by the accompanying engravings[a].

Figure 1 shows the projecting nodule from the tibia, the bone being viewed on its inner surface; while the second figure represents the cavity for its reception in the under surface of the femur.

The next case is one of

Extensive Wound of the Elbow Joint, with separation of the external condyle and articulating head of the radius, from the lower extremity of the humerus, followed by recovery, with partial Anchylosis.—This case has been referred to in the records of the Surgical Society of Ireland. Thomas M'Gill, aged nineteen years, by trade a coachmaker, was admitted into Mercer's Hospital, under my care, on June the 10th, 1852. *History.*—The patient

[a] The preparation, and the original drawings made by Mr. Connolly, are in my possession.

and his fellow-apprentice had a quarrel, when the latter took up a large knife and made a blow at him, inflicting a very severe wound on the right arm. He was brought at once to hospital, where I saw him immediately after the accident. He was labouring under very severe shock, manifested by coldness of the surface, rigor, and blanched countenance. He had lost a great deal of blood, and was then bleeding profusely. The hand of an assistant, placed steadily over the axillary artery, checked the hemorrhage, and I proceeded to examine the wound. It commenced about three inches above the joint, on its outer and posterior aspect, and with such violence did the knife take effect, that the external condyle of the humerus, together with the capitulum on which the head of the radius moves, were split off, everted, and protruding through the wound. From this it will appear how extensively the joint was laid open. The edges of the wound gaped so far apart, that the articulating surface of the radius was completely exposed, and its anterior edge marked by the knife, clearly showing that its downward direction was here checked, its force being nearly expended; and then meeting with less resistance, it passed forwards, dividing the supinator and extensor muscles, forming the outer prominence of the forearm. On everting the edges of the wound, I tied two large arteries above the joint, which were giving blood very freely, and secured the radial recurrent below; the hemorrhage then ceased. The piece of the humerus, split off and thrust forward through the wound, was still attached by some fibrous bands behind and externally, so I restored it to its natural position, and then brought the edges of the wound together with adhesive straps, having previously sealed them up with collodion, and placed the limb in the semiflexed position, on pillows, the hands being raised so as to favour the returning venous current. Heat was then applied to the feet, and a warm carminative draught with opium administered.

9 P. M. Reaction fully established; skin hot, and pulse bounding; did not complain of pain in the joint; ordered a full cathartic enema immediately, and in two hours after, an opiate draught, with laurel water.

12th. Restless during the night, and referred pain to the posterior and outer side of the arm above the wound; pulse full and bounding; skin hot; twelve ounces of blood were directed to be taken at once from the arm, and when the bleeding had ceased, stupes to be applied; three grains of calomel, with a grain and a half of powdered opium, were given, with the intention of acting as a direct sedative.

14th. Slept comfortably during the night; pulse quiet and soft; bowels copiously freed, and tympanitis gone; the blush of redness and the pain above the wound removed to the posterior part of the joint; imperfect suppuration established, so for the first time I removed the straps of adhesive plaster, but without lifting the limb from the pillow, or stirring it from the position which it had maintained from the very first. I slipped a small perforated pad under the elbow, so as to receive the internal condyle, and thus prevent stripping; a small light poultice was placed over the seat of the wound, a few straps of adhesive plaster being first applied, not with any increased tension or straining of the lips of the wound, but with the object of supporting the soft parts, which for a short distance above and below the joint had united by the first intention. Synovia, mixed with imperfect pus, was freely discharged from between the bones on the removal of the dressings. He was ordered five grains of hydrargyrum cum cretâ, with four of Dover's powder, every third hour.

18th. Up to this time the powder has been continued; a large flow of synovia and pus issue from the joint; at 3 P.M. he was suddenly seized with darting pain in the joint of a very severe character, and coming on without any assignable cause. Six leeches were ordered at once to be applied above the joint, and warm stupes to be kept assiduously to the entire limb; a full opiate was also given.

19th. Has had some sleep, but refers great pain to the joint, darting up and down the limb. As inflammation most insidiously again threatened, it was prudent to increase the action of the mercury. He was therefore ordered to continue the powders as before.

July 1st. Since last report little alteration in the symptoms; limb but little improved; tonics and acids have been administered to check sweats, &c.

4th. This morning I placed the limb in a well-adjusted case, made of gutta percha, lined with wadding. It was so constructed as to preserve the forearm immoveable at a right angle with the arm, and retained by bandages. The arm thus made up was supported in a sling suspended from a framework over the bed, and the enfeebled creature was propped in the sitting posture by a bed chair. He experienced the greatest comfort from this arrangement. No motion of the trunk produced pain in the arm, it so readily waved backwards and forwards on the slightest impulse.

5th. Has had little sleep; fainted twice; pulse very feeble; the limb was quite free from pain, which he attributed to its

new and easy position; all apprehension of hurting himself on moving in the bed was removed by the simple contrivance adopted.

15th. Going on most favourably; pulse quiet; no sweats; limb free from pain, and dressed every alternate day; had his clothes put on to-day; kept him reclining on the bed with the arm supported and suspended as before; ordered to-day an ounce of cod-liver oil three times a day, and to continue the quina mixture.

17th. Wound nearly closed up; fungous granulations all gone; anchylosis rapidly progressing; no discharge now from the joint; the limb supported as before in the gutta percha case, and, though the patient was dressed and lying supported on the outside of the bed, the weight of the arm was so great that the sling suspended from over-head could not be dispensed with.

22nd. Gaining strength very rapidly; so well did he feel on this day that I was enabled to place the limb in a sling suspended around his neck, and had him carried to a couch in the garden.

31st. Within the last few days he had rapidly gained strength, and was able to walk about the ward and into the garden; wound just healed; all the textures round the joint were thickened from the results of inflammation; but, considering all things, the most sanguine expectations could not have anticipated a more favourable result.

August 2nd. On this day he was dismissed from the hospital, the wound being entirely healed.

September 20th. Since his dismissal from hospital he has gained considerable motion in the joint. And now, the period at which I write, nearly the full power of flexion and extension have been obtained.

The details of the foregoing case are so essentially practical, that I do not hesitate in placing them on record, in warm anticipation that they may stimulate the younger members of the profession to exertions equally as effectual to the saving of life and limb. Wounds of joints are at all times to be dreaded, and watched with the greatest carefulness on the part of the surgeon, inflammation is so insidiously set up and progressive in its effects, the danger being considerably augmented if injury at the same time be inflicted on the articulating surfaces of the bones, as occurred in this instance. From the earliest period an attempt was made to bring about union by the first intention. After the hemorrhage was arrested the piece of bone projecting through the wound was carefully restored to its

natural position, the cut surfaces placed in contact, and all retained *in situ* by the application of collodium and adhesive straps. I returned the piece of bone to its place in preference to cutting it away, because it was closely connected behind by the attachment of the triceps muscle, an attachment which I considered sufficient to preserve its vitality. If the piece had been smaller, and not so vitally adherent, I would have acted exactly as Mr. Lawrence did in a case almost parallel to mine. The case is given in the Lancet for May, 1846. The patient, a boy, aged 11, was admitted into St. Bartholomew's Hospital, his right arm being caught between two cog-wheels connected with machinery in motion. He was admitted a few moments after the receipt of the accident. The integuments on the outer surface of the right upper extremity, from the middle of the forearm up to the insertion of the deltoid, were severely bruised and torn. A deep lacerated wound extended through the skin and muscles down to the elbow joint, which was opened. The external condyle was chipped off from the humerus, and held only by a few tendinous and fleshy fibres. There was considerable venous hemorrhage, but the brachial artery not wounded. Mr. Lawrence removed the external condyle by severing with a scalpel the soft shreds which retained it. This case did well.

Another case, very similar, is given by Mr. Key, in which the integuments of the arm of a boy, aged 9, were severely torn. The elbow joint was laid open, and the internal condyle chipped off by a roller in motion. In this case the internal condyle was removed by Mr. Key, and the important articulation between the ulna and the humerus was destroyed. Yet the patient, too, did well.

If portions of bone be so far separated as to be connected only by a few tendinous fibres, they should, no doubt, be regarded as foreign bodies, and immediately removed, as their presence would only excite inflammation, and prevent the healing of the wound until discharged by nature.

In the management of M'Gill's case the antiphlogistic treatment was fully carried out; general bleeding when the inflammatory fever was at its height; local detraction of blood by leeches on the supervention of pain; the gentle administration of mercury; soothing applications to the limb, and the constitutional treatment modified according to the type of the fever present. There is one more point in the local management which I have left for special notice, and that is, the suspension of the limb at a suitable height in a sling. This I cannot pass over without most warmly recommending. From the very period when I had recourse to this procedure, many of the

patient's annoyances were removed, and he began visibly to improve. Not only was the inflamed part placed in the most favourable position for its returning circulation, but the motions of the patient were not so constrained or prohibited; he could turn partly to either side, and thus relieve himself from pressure. In this way the fatigue of lying was considerably lessened, and the irritation consequent on perpetual watchfulness removed; for on the slightest impulse the limb floated with its solid case suspended in the air. Again, when the patient was convalescent and lying dressed on the outside of the bed, propped up with pillows, the suspension of the limb in his emaciated and enfeebled condition, was of the greatest value, for the weight was entirely borne thereby.

Art. III.—*Observations on Spinal Irritation.* By Robert Law, M. D., Professor of the Institutes of Medicine in the School of Physic in Ireland, &c.

Until our physiological knowledge of the nervous system is more complete and perfect, we can have but little expectation or hope that our knowledge of its pathology will be other than very incomplete and imperfect. To attempt to determine the pathology of an organ before we are thoroughly acquainted with its physiology is obviously absurd and preposterous. Although we have with later years made great progress in the physiology of the nervous system, still much remains yet to be done before we can rest satisfied. What little success has hitherto attended the efforts to connect intellectual derangement with determinate definite cerebral lesion! How little proportion is found to exist between functional cerebral disturbance and material organic change! How often will the most extensive structural change of the substance of the brain be found after death, of whose existence there was scarcely a suspicion during life! And how little have the necroscopic examinations of lunatic asylums contributed to the pathological anatomy of the brain! Have not their results been mostly negative, at least yielding no satisfactory explanation of the derangement of the function in the alteration of the instrument? And if these efforts to connect derangement of mind with actual positive disease of its instrument have proved so unsuccesful, can we flatter ourselves that we shall be more fortunate in our endeavours to fix the pathology of other portions of the nervous system, with whose physiology we are at least as little acquainted? Have we any reasonable expectations that we shall find

in the spinal marrow and in the ganglionic nerves material explanations of functional derangements which we vainly look for in the brain? If, while we understand the physiology of the brain better than of any other portion of the nervous system, and if it lend itself more readily to post-mortem examination than many other parts of this system, and if, notwithstanding these advantages, we have made so little progress in the pathology of the brain,—I fear we have much to learn, and that through much difficulty, before we can attain to any certainty in our knowledge of the pathology of the rest of the nervous system, or unsettle the very general impression that nervous and imaginary disorders are one and the same thing.

Many of the derangements of the nervous system afford but rare opportunities for the investigation of their pathological nature and character, in consequence of their rarely proving fatal; but we have a means of ascertaining their nature, and upon which we can rely with at least as much, if not more, security and confidence than we can upon the evidences on which we ordinarily depend for our information, viz., the influence and effects of remedial agents upon them. In proof of this I would advert to the history of delirium tremens. The phenomena of this disease so closely resemble those of inflammation of the brain, that the two diseases were regarded as so closely allied to each other, if not identical, that they must needs be treated in the same way,—that the antiphlogistic was the appropriate treatment for both. The failure of this treatment when applied to delirium tremens proved that the analogy between the two affections was more apparent than real; that there must be some essential difference between them to account for the different results of treatment. Opium was now employed, and its success was as signal and remarkable as was the failure of the antiphlogistic treatment. Its known influence on the nervous system and its disorders served as a kind of test and proof that delirium tremens was not a true inflammation, but one of the diseases of the nervous system over which it exercises a special control. The treatment of this disease, and the light thrown upon its true pathological nature by this treatment, led to a more careful examination of other similar diseases, and such examinations in many cases issued in similar results; they were no longer considered as inflammations, nor as requiring the treatment adapted for inflammations. It is now many years since my valued friend, Dr. George A. Kennedy, and myself, when we were both attached to the Dispensary in Meath-street, were requested by the apothecary of the insti-

tution to visit his wife, who had been thrown from a car three days before. She was a woman of about forty years of age, of a slight, delicate configuration; we found her in a state of great nervous excitement; she complained of pain on pressing the right side of the abdomen between the umbilicus and the ilium; the pulse was 140 in the minute; she had no sleep for two nights. Her husband considered the accelerated pulse and the other phenomena to be symptomatic of peritonitis. Dr. Kennedy and I viewed them differently, and regarded them rather as the effects of the nervous shock; but as we knew there was an old physician in whom our friend had great confidence, we readily acceded to his wish that he should meet us in consultation. The treatment Dr. Kennedy and I suggested was, a few leeches to be applied to the painful part of the abdomen and afterwards fomentations; that she should have thirty-five drops of laudanum, in camphor julep, as a night draught, and if this failed to procure sleep, that she should have another draught of twenty drops. The old physician met us before our suggestions were adopted. We explained to him our view of the case, and the treatment we had proposed. He differed from us, and regarded the case as one of peritoneal inflammation, and advised a bleeding from the arm to the extent of sixteen ounces. Dr. Kennedy and I could not enter into his views either as to the true character of the symptoms, or as to the treatment. We were left to adopt our own view and treatment. A single draught procured sleep for our patient. The next day we found her in a quiet, tranquil, composed, state. The pulse had fallen to 90 in the minute. The abdominal tenderness had quite disappeared, and she now quickly recovered.

Formerly inflammation was regarded as everything in disease: it was its Alpha and Omega; its *primum movens* and *ultimum moriens*, and the reason is obvious enough, namely, because the phenomena of the circulation are more palpable and appreciable than those of the nervous system, and, therefore, lend themselves more readily to investigation. Besides, our knowledge of the circulation was much in advance of our knowledge of innervation, and, therefore, we were better qualified to understand its derangements. How materially has this difference in our knowledge of the circulation and innervation influenced our pathological views of fever! All the early phenomena which exhibit themselves in the nervous system are passed over, and the disease is dated from the time that the circulation is involved. The nervous system is now assuming

the prominent place in pathology to which its importance entitles it; and the danger now seems to be lest its pretensions should be stretched too far.

It is quite true that the nervous system may be disordered without involving the circulation, still the two systems are so intimately connected that they very soon affect each other, and the result is a complicated pathological condition in which the nervous and vascular elements exist in various proportions, and to which a treatment is to be applied modified by the varying proportions of the two elements. It was this that first suggested to me the combination of tartar emetic and opium in the treatment of delirium tremens, and which Dr. Graves afterwards applied to the treatment of fevers resembling delirium tremens.

Since attention has been attracted to the pathology of the nervous system, a peculiar affection—from the frequency with which it is associated with tenderness experienced on pressing some portion of the vertebral column—has been designated, spinal irritation. Now there is no subject that has given rise to more discussion and vain controversy than the subject of spinal irritation, its too zealous advocates putting forward for it unreasonable pretensions, while its opponents go to the extreme length of ignoring its existence altogether, or at least of refusing to it any more settled resting-place than the imagination of nervous ladies, who for want of real ills must needs create artificial ones. I most freely admit that the investigation of these cases demands the extreme of caution, and the representations of the patients must be received with considerable wariness, as there exists a strange proneness, not alone to the *suppressio veri*, but to the *assertio falsi*. I have known the case where the patient, on the recovery of her health, loathed herself for the falsehood she was conscious of when under the influence of the disease. Medical history teems with these cases of deception and fraud. The most remarkable one of this kind that came under my immediate notice was that of a young female, who had always before maintained a character for strict truth, when she began to complain of dysuria and distress in the region of the bladder. There were many persons interested about her, and medical advice was provided. Her medical attendant discovered that she had for some time been introducing pieces of brick into the bladder, while she at the same time exhibited other pieces which she affirmed she had passed from the bladder, but whose size falsified her statement, as it was quite impossible that they could have made their way through the

urethra. She persisted in her false statement, although threatened with the operation for stone in the bladder.

Of the reality of such a disease as spinal irritation I have no doubt, although I question the propriety of the designation. The tenderness on pressing the spine is accidental, and often absent in the most unequivocal cases of it. If ever there was a disease of which it might be justly said, "*Quo teneam nodo mutantem Protea vultus*," it is this. There is not an affection that it will not simulate. I have had the same individual at one time exhibiting symptoms that made me dread cerebro-spinal meningitis; at another time with such palpitations and irregular action of the heart, that it became a question whether there was actual cardiac disease or not. At another time another organ became affected, until all in their turn performed their part in the pathological drama.

In a previous communication in this Journal I have already stated the particulars of a very interesting case, and which, as they bear very directly on my present subject, I shall here repeat. The case was that of Eliza Warren, aged 26, of a nervous, irritable habit, who had been under my care in hospital for hysteria, in various modifications and forms, and often simulating the most serious organic disease. At one time pain in the left side of the chest, dulness under the clavicle, and feeble respiration in this situation, with hemoptysis, excited the suspicion of phthisis pulmonalis in a more than nascent state. A disappearance of all these phenomena quieted alarm. At another time she had uterine hemorrhage, so profuse and so prolonged that it was supposed that there must be some organic disease of the uterus. This likewise disappeared, and was succeeded by some other affections of a more distinctly nervous character, which served to explain those that preceded. On one occasion we received her into hospital in a state of great nervous excitement, caused by her having been rudely laid hold of by a soldier in the street as she was returning home late at night. I had often seen her in nearly as great a state of excitement before, and relieved her with camphor and ammonia. However, her present attack proved less tractable than those which had preceded, and exhibited a novel feature. At a late hour of the night of the day on which she was admitted into the hospital she awoke, and attempted to speak to the patient that lay in the bed beside her, but, to her utter dismay, she found she could not articulate. When I visited her the next day, I found her perfectly dumb. In vain she tried to speak, literally—*vox faucibus hæsit*, she could only make signs.

The tongue was firmly pressed against the roof of the mouth; and she gave me to understand by signs that she felt pain proceeding from the back of the head to the tongue, which I concluded to be in the course of the lingual nerve. Connecting this new and strange phenomenon with others that she presented at the same time, and regarding them all as nervous, I applied to the old and often successfully tried remedies in her former attacks, viz., camphor, valerian, valerianate of zinc, castor, &c., but now they quite failed; and upon their complete failure I thought of giving her mercury with caution. I divided six grains of calomel into twelve parts, and directed that she should have half a grain every second hour. The six grains produced profuse salivation. Immediately her tongue became perfectly free; it was no longer pressed against the palate, and she could speak quite plainly; her sore mouth was the only impediment to her distinct articulation. After the salivation, which was profuse, had ceased, I gave her tonics, and in a short time she left the hospital quite well, and soon went to service. The immediate recovery of her speech, on the mouth becoming sore, warranted the conclusion that the one was the effect of the other. But, it might be objected, is it safe to rest a conclusion upon the result of a single case? Might it not have been a *post hoc* rather than a *propter hoc?* I had, happily, the opportunity of meeting this objection in the most satisfactory manner, and with an argument that could not be resisted, by the same individual, while in service, becoming the subject of a similar illness, and with the same inability to pronounce an articulate sound. The family in whose service she was, and who knew nothing of her previous illness, sent her into another hospital. She continued there speechless for *seven months.* During this time she underwent a great variety of treatment, but without any benefit. She at length left the hospital by stealth, and came into Sir Patrick Dun's hospital, under my care. She was affected exactly in the same way as she had been when under my care before. I at once resorted to the mercury, and ordered for her five grains of hydrargyrum cum cretâ thrice daily. On the third day her mouth had become sore, and on the same day her speech was restored. On both occasions the salivation was profuse.

This case, not less remarkable for its twice exhibiting the unusual phenomenon of loss of speech than for the immediate disappearance of this phenomenon on the system becoming affected with mercury, and that, too, after the failure of all those remedies which are usually employed in what are designated nervous disorders, suggests to us many important considera-

tions. It naturally leads us to suspect that there may be more of real positive organic lesion, lying at the root of those so-called nervous disorders, than is commonly imagined. Certainly, had not such a suspicion crossed my mind, I never should have thought of having recourse to mercury in this case. Who, in fact, would employ this remedy in those diseases which are understood to be strictly nervous in their character? And what more valuable and more efficient remedy than it have we in those cases where we have actual lesion of the nervous structure? The subject of the preceding case ultimately fell a victim to scrofulous suppuration of the kidney. May not this fact serve to stamp those supposed nervous disorders with an organic character? If this example affords ground for suspecting organic lesion in cases apparently purely nervous, some, perhaps, who will read this record will be reminded of a case the exact opposite of it, in which aphonia was present, and in which the phenomena so closely resembled laryngitis that the operation of tracheotomy was performed. The aphonia proved to be purely hysterical. This case, as well as the one which I have narrated, was an hospital patient.

I have had one of these nervous cases under treatment for many years, which has served as a pathological study. She is a lady of great natural intellectual endowments, and of a most cultivated mind. When fourteen years of age she suffered from violent headach, which was attributed to her too close application to study, and to her mind being too much exercised. She was directed to relinquish her studies, and, in consequence of the light increasing her headach, she was kept in a dark room. At this time she was placed under the care of St. John Long, in London, and was subjected to his *rubbing out* for two years. She was not conscious that she derived any benefit from this treatment. Her headach continued up to the period of her marriage, nor did it then cease; in fact, she could scarcely say she was ever quite free from it. She bore five children, and got well over all her confinements. She had four daughters and one son. The death of her infant son, from scarlatina, gave her a tremendous shock; and to this sad event she attributed the complete break up of her health. The natural energy of her character sustained her under physical suffering, and she never yielded until she could not help it. She had been under the care of different medical men, both in England and Ireland, and for various illnesses, and from the treatment that was generally employed in these we may infer that they were looked upon as inflammatory in their character. The condition of her teeth tells a sad tale of all the mercury she took; while

the countless leeches that she says were at different times applied when she experienced pain, afford further evidence of the view that was taken of the nature of her illnesses. It is now about eight years since this lady consulted me. She complained of fever coming on every evening, and completely depriving her of rest. She was extremely weak and emaciated. She had been for some time under homœopathy, from which she said she had not derived the slightest benefit. Although night after night she got no rest, still she was refused any hypnotic.

The homœopathists repudiate narcotics under any circumstances. When a patient of mine, whose case I pronounced hopeless as regarded ultimate recovery (it being a case of aneurism of the abdominal aorta), but whose sufferings were greatly mitigated by morphia, applied to a homœopath, he promised the poor fellow a cure, and required, as a first step in the curative process, that he should discontinue his morphia. He left off the morphia for one day, but his sufferings were so great that he would no longer dispense with it. It afforded him the only relief that the nature of his disease admitted. Post-mortem examination confirmed my diagnosis of aneurism of the abdominal aorta.

Having less scrupulosity than the homœopaths on the subject of narcotics, I did not hesitate to allow the lady a small dose of morphia, which procured her most comfortable sleep, to which she had been long a stranger. I also directed her tonics, under the use of which her general health underwent an improvement, which, unhappily, was only temporary. She removed to the country, which she considered always disagreed with her. She became so ill from diarrhœa that she was brought back to town. She now became the subject of most distressing attacks of syncope, with very irregular action of the heart, so that her friends were afraid of heart disease. I did not share in their alarm, but to quiet their apprehensions suggested that Sir Henry Marsh should see her in consultation with me. He took the same view of the irregular action of the heart that I did, viz., that it was purely nervous. She continued to have these syncopic paroxysms for a considerable time. Nor would I pronounce them pure attacks of syncope,—they had something of catalepsy in them. When she was thus affected, she often complained of pains proceeding from the spine along the sides of the chest, and which gave her the sensation as if she were tightly bound round the body with cords. I generally could detect a painful spot of the spine from which these painful sensations seemed to radiate. A very few leeches applied there generally afforded relief. I also found great ease to

follow the application of tincture of iodine to the track of the pain. While this portion of the spine was the centre of irritation, the lungs also occasionally became the seat of painful congestion, for which I sometimes deemed it expedient to apply blisters to the sides. Their application developed a remarkable feature in her case, viz., an extreme susceptibility of the influence of blisters—an extraordinary hyperæsthesia of the cutaneous surface. A common blister, covered with silver paper, rose in less than two hours. Nor did this occur but once. Whenever, while my patient was in this state of health, I had occasion to order blisters, they invariably vesicated within the same short period. Nor can there be much difficulty in understanding why this should be the case, when we reflect upon the irritable state of the cutaneous nervous fibrils in this peculiar morbid condition, contrasted with what it is in their normal state. I shall afterwards have to advert to this when I come to speak of this patient in another stage of her illness. I should here observe, in proof that this sensibility of the skin to the influence of blisters depended upon the then morbid state of the patient, and not upon any peculiar constitutional diathesis, for when afterwards her health had improved, and she was affected with pneumonia, and a blister was applied to the chest, it did not rise more in eight hours than it did formerly in two. It is fair to infer that the difference in the patient's health was the modifying circumstance which influenced the effects of the blisters.

When the faintings subsided, and the heart's action became somewhat more regular, she was affected with abdominal pains, which, she said, were exactly the same as those she experienced formerly, and for which she took so large a quantity of mercury, and had so many leeches applied. These pains were precisely of the same nature as those which she felt along the sides of the chest. She complained much when the abdomen was gently pressed, but felt much less when stronger pressure was used. This fact in itself distinguished between this pseudo peritonitis and true peritonitis. I applied a few leeches to the spine, with much benefit; and derived the most decided advantage from the employment of opiate stupes, and from tincture of iodine applied to the painful parts. I here take occasion to recommend, as strongly as I can, the tincture of iodine as a local application in neuralgic affections. I have tested its virtue on many occasions, and have seldom found it to disappoint. Its influence seems to penetrate more than the ordinary counter-irritants employed. The organs most frequently affected when the portion of the spine corresponding to the ab-

domen was engaged, were the uterus and bladder. The uterus often became so congested and so large, that a superficial examination would have led to a suspicion of pregnancy. But this state of the organ would disappear as suddenly as it came on. Dysuria was a very constant symptom. While the patient suffered in this way, she underwent extreme emaciation. Morphia procured her refreshing sleep; if she slept without it she was more fatigued than refreshed. She often had to take a large quantity of this remedy, but it never produced even an approach to narcotism.

It is, in fact, peculiar to this particular morbid condition that if it does not render the system altogether insensible to the influence of opium, it at least induces an extraordinary tolerance of this drug. I knew one such case, in which the patient took nine grains of muriate of morphia daily for three months, without being ever narcotized, and was able, without inconvenience, to submit to the remedy being gradually reduced to the smallest quantity ordinarily administered.

To return: my patient had very imperfect use of her limbs; she could only walk about her bed-room supported by a stick. In the course of her illness it was often suggested to me by her relatives, who all felt a deep anxiety about her, "Might there not be some disease of the spine to account for her very peculiar symptoms?" I could always trace this suggestion to a surgical source. However, to satisfy their minds on the point, I was too glad when it was proposed to me to consult with my valued friend, Mr. Cusack, whose deep experience both in medicine and surgery—while it gives a high value to his opinion on any and every point connected with our profession—made me especially desirous to have it here, where I had a confidence in the correctness of the view I had taken of the case, and was equally confident that he would share in my view, and thus ignore the surgical character of the disease, to which I felt it had not the slightest pretension. Mr. Cusack's opinion completely coincided with mine, both as to the nature of the disease and as to the treatment. I heard no more suggestions of inserting issues along the spine, or firing, or keeping up a succession of blisters,—a practice which, pursued in like cases, has inflicted an injury on our profession that it will not readily recover.

By tonic treatment this patient wonderfully recovered. She completely lost her headach, from which she had not been free since childhood. She now never had a fainting fit, nor any abdominal pains. She became stout in her person, and all the functions were duly performed. She could

walk also for some distance; but unhappily, in the midst of this improvement she met with an accident, which prevented her making way in this respect. She slipped while stepping out of her carriage, and hurted her back. This materially interrupted her amendment; still, she confesses to have attained to a state of health and comfort which she never knew since she was a child.

I could multiply such cases, but have selected the preceding as a type or specimen. There is one feature of it that I omitted to mention, viz., the frequency with which it presented a close resemblance to intermittent fever, going through its regular paroxysms of cold, hot, and sweating stages. I am persuaded the more we compare these two affections, the more nearly shall we find them to be allied to each other. All the phenomena of intermittent fever bespeak it a neurosis.

That there is such a disease as spinal irritation I firmly believe. I further believe that there are two forms and modifications of this disease, as different in their nature as they are in the treatment they require. That one is of a constitutional origin, and is often induced by moral causes operating on the spinal marrow, which we may regard as the emotional department of the nervous system, and propagating their disturbing influence to the different organs situated along the spine. That different circumstances and causes influence the secondary organic affections, such as natural or acquired weakness, or morbid susceptibility in any of these organs. Period of life, too, according to which one organ may have its function more exercised than at another period, will serve to give a direction to this reflected morbific influence. The peculiar desultory or intercurrent character of this modification of disease is its characteristic feature, and with this I would connect its comparatively harmless character. It does not dwell sufficiently long in any portion of the spine to allow time for actual disease to establish itself in the contiguous organs. It changes its place too rapidly for this, and this shifting, versatile character has created the difficulty of bringing it within the limits of any general description. This is the reason, too, why its true pathology is so little understood, as it so rarely supplies material for post-mortem examination.

As this is essentially a constitutional disease, to which the local organic affections are mere accidents, so the treatment should be constitutional, with a due regard, however, to the local affections. Its changeableness and inconstancy preclude me from entering into the details of treatment, I can only deal in generalities. While the appropriate treatment is essen-

tially tonic, we may employ local depletory measures with great benefit. I have remarked, in my observations on the fever that prevailed in Ireland in 1847–8, how frequently symptoms of spinal irritation and most distressing pains in the course of the spinal nerves exhibited themselves, and how constantly these symptoms disappeared from the application of leeches to the spine, at the same time that the constitutional treatment consisted in the almost exclusive use of stimulants. I believe that these pains are, if I may so express it, an exaggeration of the feeling of *malaise*, so constant as an early symptom of fever, which I conceive to be a modification of the peripheral sensibility, dependent upon the state of the capillaries, which are probably in a too congested condition, and that the relief from leeches is due to the removal of this congestion. And although it may appear inconsistent and paradoxical to deplete and stimulate at the same time, yet these opposite means are really promoting the same end. The overstrained and overloaded vessels are relieved by the leeches, and acquire from the invigorated system additional power to act upon their diminished burden. I have found hot stimulating liniments rubbed along the spine signally useful in relieving this feeling of discomfort, which I attribute to their stimulating influence on the capillaries.

The other modification of the disease is when it is of local origin, and where the spinal affection is secondary to and dependent upon some organic lesion situated in the spine itself, or in some organ from whence it is reflected upon the spine, and thus simulates a case of original spinal-irritation. I saw a remarkable case of this kind, in which an insidious process of caries of the vertebræ eluded the observation of one of the most careful surgeons I ever knew, and was not detected until palpable deformity had occurred. In this case the patient at one time laboured under the most distressing sickness of stomach I ever witnessed, and nothing seemed to exercise the slightest control over it. When it ceased, the patient suffered from violent palpitation of the heart and occasional hemoptysis. These, however, proved themselves more amenable to the influence of medicine. The patient ultimately attained to perfect health; the organs also resumed their normal regular action when nature had completed her cure of the caries.

It is beside my purpose to do more than to remark on the existence of this modification of the disease, and of the possibility of its being mistaken for original spinal irritation. But my main subject is spinal irritation as contra-distinguished from this, and for it I claim a special independent existence.

Before closing my observations, I would remark that the diagnosis of these two diseases has been obscured by the fact, that not unfrequently we have loss of motion of the lower limbs where we have least reason to expect it, viz. in the functional affection. I have a distinct recollection of a man, and not a very imaginative one, who was admitted into hospital, having lost the use of his limbs. He went upon crutches. He described a kind of fit, which he said seized him daily, and which he represented as a kind of *aura* rushing up from the stomach to the head, after which he got into a state of unconsciousness for some time. He was quite aware of the fit coming on. I ordered for him an antispasmodic draught, composed of camphor, ether, and ammonia, with directions that he should take it immediately when he felt the approach of the fit. He only took three draughts when the fits quite ceased, and he immediately recovered the use of his limbs. He went out of the hospital, and, having no further occasion for his crutches, left them behind him.

The preceding observations have been put together as a contribution of pathological material bearing upon some of the most interesting and important points in theoretic and practical medicine, viz., the physiology and pathology of the nervous system—a system whose investigation is attended with more difficulty than that of any other in the animal economy, and a knowledge of which must constitute the very foundation of medical science. Its difficulty and importance should stimulate our endeavours by every means that afford us the least hope of either directly or indirectly obtaining our great object. I entertain the most sanguine expectation that the results of anæsthetic remedies will contribute much towards this end, as I think I have proved that other therapeutic agents have cleared up and established the true nature of not a few pathological conditions to which they were applied, and wrested them from the obscurity which surrounded them.

Art. IV.—*A Notice of some Cases of Injuries produced by the Machinery of Flax Scutch Mills.* By William Moore, A.B., M.B., T.C.D., L.R.C.S.I., Surgeon to the Ballymoney Dispensary District and Bridewell.

Accidents of the above description have, as regards Ireland, been hitherto almost exclusively confined to the northern district, inasmuch as it has been the great field for the promotion of the growth of flax in this country: however, it is now be-

coming a more staple commodity, being more generally cultivated over the length and breadth of the land, as the following extract from the last Report of the Royal Flax Society of Ireland shows:—"In the present year there were 175,495 acres under flax in Ireland, being an increase of 29 per cent. over last year's crop. The increase in Leinster, Munster, and Connaught is 22 per cent. over last year, the amount of acreage under crop being 14,279." Injuries similar to those I am about to describe, no doubt, will be more or less entailed thereby on the inhabitants of those provinces, but I trust not to the same extent as has hitherto occurred in Ulster, where it is mainly owing to the question of perfection in the manufacture of the raw material being made of primary importance,—that of the frightful mutilation and frequent loss of life, from the imperfect construction of the machinery, of secondary import.

In order that my readers may the better understand how accidents are of such frequent occurrence in these scutch mills, I shall give a brief and, therefore, rather imperfect description of the dangerous and exposed arrangement of the machinery in the majority of these mills. In the old flax scutch mills, large wooden rollers are used for the purpose of bruising the fibre, and these are kept supplied by an attendant who is strapped to a staple at a certain distance, to prevent his being drawn into the machinery, and who opens the bundles of flax and suits it to the rollers. From the slightest inattention, the hand, under any circumstances so contiguous to the rollers, is readily drawn in with the flax, unless the precaution of the strapping is resorted to, and the loss of a limb, or, as too frequently happens, of life, is the consequence, as is shown by my third case. This imperfection is remedied to a considerable extent in the more recently constructed mills, in which there is a table, at one extremity of which the rollers are fixed, and at the other end the attendant stands and arranges the flax, consequently he is at a considerable distance from the rollers. The accidents from being caught in rollers are not so common as heretofore, owing to this recent improvement, which, I regret to say, is not sufficiently general, at least in this locality. The flax when rolled is subjected to the scutching machines, and these, even in the most recently constructed mills which I have had an opportunity of examining, are most imperfectly planned, as far as regards the safety of the men in attendance in this particular department, as is clearly proved by the frightful mutilation and loss of life which, I might almost say, occur daily. The scutching appliances are, as it were, wooden wings, attached to a shaft at certain

distances, and driven with considerable velocity; opposite each of these scutching machines there is an aperture where the scutchers stand, and their office is to subject the rolled flax as equably as possible to the action of this machinery. The hand is not more than a few inches, say two or three at most, from the machinery, and consequently comes in contact from the least inadvertence, and a lacerated wound or loss of the limb is the consequence.

The first case I have to report is that of R. C., aged about 55. In the month of November, 1852, I was sent for to visit this patient, and found him suffering from a fracture of the metacarpal bone of the index finger of the left hand, and a lacerated wound of the thumb, index, and middle fingers; the muscular substance was torn off the thumb, and the bone and extensor tendons were denuded. The wound of the fingers extended over the back of the hand. Under the use of cold water dressing, with oiled silk, and the occasional application of a linseed meal poultice, when the suppuration was profuse, the wound healed rapidly. In this case the patient's attention was casually distracted from his employment, and his hand came in contact with the scutching machine.

Case II.—A. M'H, aged 45, inadvertently placed his hand too close to the scutch wings, and received a large flesh wound, which extended diagonally across the back of the left hand. The bones were uninjured. Cold water dressing, as in the previous case, had a most happy effect in healing the wound.

Case III.—On the 30th of March, 1853, I was sent for to see S. O., aged 40, and found his jaws so locked that the point of a penknife could scarcely be passed between his teeth; rigidity of the masseters and of the muscles of the back; neck curved backwards, frothy saliva exuding from between the teeth; frequent severe paroxysms. All these frightful symptoms had supervened on a lacerated and contused wound of the right arm, extending from the tips of the fingers half way up the fore-arm, which had occurred on the 22nd inst., eight days previous to my seeing him. Notwithstanding the use of warm baths, turpentine enemata, and the exhibition of calomel and Dover's powder every second hour, as long as it could be introduced between the teeth, the patient died on the following day. In this case the patient had not taken the precaution of having his arm bound to a staple to prevent its being caught in the rolling machines, and consequently he received the mortal injury I have described above.

Case IV.—On October 3rd, 1853, I first saw this patient, and found a compound fracture of both bones of the left fore-

arm; there was no protrusion of the bones through the wounds. I placed the arm on a pillow, and applied cold water dressing and oiled calico; the wounds healed favourably. November 4th, I put the arm up in two straight splints, and on the 29th I removed both splints, when the arm was perfectly straight.

In this instance the patient, while carrying a bundle of flax, tripped up and fell, his left arm coming in contact with the scutching apparatus, which instantaneously inflicted the above injury.

Case V.—M. M'M., aged 40. This was a contused wound of the left hip, and a transverse lacerated wound of the adductor muscles, about three inches across and of considerable depth. The woman stated that her clothes caught in the rollers, and she was gradually being drawn in when the mill was stopped. She supposes the deep wound was caused by the cog-wheel of the rollers. Treatment consisted in the application of cold water dressing covered with flannel.

I could cite innumerable instances of similar injuries which have occurred in the practice of my neighbouring professional brethren, and in which the loss of one or both arms was the consequence,—death being the termination in many cases. The most formidable sequelæ in these injuries are tetanus, trismus, and mortification; consequently the employment of lint, bandages, and plaster dressings, which become dry and irritating, are particularly ill-suited for such injuries as I have described, in which there is severe nervous laceration. Cold or tepid water-dressing, covered with oiled silk, constitutes the most sedative and grateful treatment, and is easiest applied. In the majority of cases cold water is the most salutary application, inasmuch as it checks the hemorrhage, which is considerable in all these wounds, excessive in some. Where there is an extreme morbid sensibility in the injured part, tepid water, at a temperature between 85° and 90° Fahr., may be more soothing. When the suppurative stage commences I employ linseed-meal poultices, as they clear away the discharge more speedily; but once this diminishes I return to the cold water, to complete the healing process, which it invariably effects in an incredibly short time. On the whole, I consider there is no other treatment so well suited for such injuries, as, by keeping the parts moist, the morbid irritation in the injured nerves, which the dry dressings are so apt to excite, is allayed, and the fearful and intractable sequences mentioned above consequently anticipated.

Before concluding these remarks, I cannot help adverting to the absence of that due regard for the preservation of human

life which seems to prevail so generally in the manufacture of flax. In this trade the motto seems to be, "Salus populi ultima lex," as may reasonably be inferred from the subjoined extract from the Report of the Flax Society on scutching machines:—"From what they have witnessed, however, they believe that they shall have ere long to report upon a progress more or less complete towards the establishment of a process which shall be to a certain extent self-acting,—that considerable improvement will be thus introduced into the scutching process, tending towards economy of labour and increase of yield." Here the virtue of the machinery being self-acting seems to consist in "economy of labour and increase of yield:" the "salus populi" is not once even hinted at.

In an admirable Report of the Dervock Dispensary, by the Rev. Thomas Hincks, I find the following paragraph:—"The Committee feel called upon to direct attention to a Report of their medical officer, in which he states that scarcely a season has passed in the course of his practice without accidents, more or less severe, happening to persons from the bad construction of flax-rolling mills, whereby in some instances fingers, in others a hand, and in others an arm, have been lost: thus disabling the sufferers for life from using any industry, and generally causing them to become burdens upon the community. Two such instances have occurred in this district within the year; and the Committee cordially concur with their medical officer in recommending that some legislative enactment should be sought for, to place these mills under proper supervision."

Now, by the return of the Census Commissioners, it appears that last year there were 956 mills at work in Ireland, employing 15,000 persons: many more have since been erected, particularly in the south and west of Ireland, and, under these circumstances, it is high time that some decided steps should be taken in the matter to prevent an extension of those injuries, which heretofore have been almost exclusively confined to the province of Ulster, and which, in the majority of cases, either terminate the sufferers' existence, or maim them, so that they become helpless for life.

Art. V. — *On Luxation downwards and backwards of the three internal Metatarsal Bones, a form of Dislocation of the Foot not previously described.* By Jolliffe Tufnell, F.R.C.S.I., M.R.I.A., Surgeon to the City of Dublin Hospital; Lecturer on Military Surgery, &c. &c.

Through the extension of pathological investigation, cases of injury and disease are now brought under the notice of the profession which were formerly supposed incapable to exist. This remark applies to the subject of the present communication, namely, luxation of the metatarsal bones, a species of dislocation which, for a long time, was regarded as not possible to occur. Sir Astley Cooper, in referring to the subject[a], says: "The metatarsal bones I have never known luxated; their union with each other, and their irregular connexion with the tarsus, prevent it." Desault and Petit, as if not anticipating its occurrence, say nothing respecting this injury, whilst Boyer, contemplating the anatomical arrangement of the arthrodial articulations, strengthened as they are by surrounding ligaments, positively denies the possibility of this dislocation taking place.

Instances of the luxation of the metatarsus *upon* the tarsus have, however, been at intervals adduced, but so rarely that even recent writers have scarcely given the subject notice. Syme does not mention the accident[b]. Miller[c] merely alludes to it by saying: "One or more of the metatarsal bones may be displaced upon the tarsus." Ferguson[d] but remarks: "Such injuries must be of rare occurrence;" and Erichsen[e] only says, "Dislocation of the metatarsal bones, though exceedingly rare, yet does occasionally occur." At the present time (so far as I am aware) there are but six cases of this accident upon record. Two of these occurred to Dupuytren. They were first published in the Révue Médicale, for December, 1822; and have since been republished by the Sydenham Society. Two more came under the observation of Professor R. W. Smith, and are to be found in his admirable treatise on fractures and dislocations[f]. One is mentioned by South in his translation of Chelius[g]; and the last is related by Liston. These six cases had all one point in common,—they were displacements *upwards* and

[a] Dislocations and Fractures of the Joints, by Sir Astley Cooper, edited by Bransby Cooper. 1842. Page 339.
[b] Principles of Surgery.
[c] Principles and Practice of Surgery. 1853.
[d] Practical Surgery. 1852.
[e] Science and Art of Surgery. 1853.
[f] Dublin, 1847, page 224.
[g] Page 814.

backwards upon the tarsus; whilst that I am now about to record is, on the contrary, luxation in the opposite direction, viz., *downwards* beneath the sole of the foot, and is, I believe, the very first instance of the kind which has been brought under the notice of the profession. In saying this, I would by no means infer that it is the only case that has occurred; for happening under the agency of causes which must ever have existed equally as at present, we cannot but reasonably suppose that such accidents must have befallen individuals then as now, and that the want of a more careful record by surgeons of their several experience has alone prevented this peculiar dislocation from being known.

For the opportunity of witnessing it I am indebted to Mr. Dolmage, surgeon of the 7th Dragoon Guards, in whose regiment the accident occurred, and in the following manner: A trooper was returning off duty to Portobello Barracks, Dublin, on the 30th of November, 1851, and was walking his horse cautiously, the road being very slippery from frost. Whilst turning a corner, bordering upon the canal, the animal suddenly slipped, and fell with his whole weight upon the soldier's right leg and foot, crushing it against the ground. The horse rose instantly, the man remaining in the saddle, but suffering such agony that, unconscious of what he was doing, he reined the animal back into the canal. Here a violent struggle ensued, the horse eventually disengaging himself from his rider, who, assistance being at hand, was dragged out and taken to his regimental hospital close by. He was seen by Mr. Dolmage within a very few minutes of the accident having occurred, and before any considerable degree of swelling had taken place.

The foot was found to be much shortened, curved inwards and bent, the tarsus presenting a hard bony projection, overhanging the metatarsus, whilst deep under the plantar structures a second bony mass could be felt lying obliquely across the sole of the foot.

Reduction was at once attempted by placing the patient on his back, fixing the pelvis, flexing the leg upon the thigh, and extension then made by pullies attached to the extremity of the foot and to the toes, and persevered in for a considerable time, during which every possible movement of the metatarsus upon the tarsus, calculated to assist reduction, was resorted to, and leverage also made upon the dislocated extremity of the metatarsal bone of the great toe, where projecting in the sole, by means of a ruler being applied to it, and drawn upwards and forwards, whilst the clasped hand of a powerful assistant,

placed upon the instep, held that part downwards and backwards. As great a degree of force as it was considered justifiable to employ was expended in the effort at reduction, and continued for one hour, but not the slightest alteration in the position of the bones could be effected. Considerable effusion and ecchymosis followed, the latter extending up almost to the knee. Leeches, fomentations, &c., were prescribed, and the ordinary treatment for violent contusions had recourse to. Under this treatment swelling subsided; and ten weeks after the accident the foot presented the appearance represented in the cast[a], from which the annexed engraving was made.

All swelling and thickening had now disappeared, the outline of the tendons and every portion of the extremity being most accurately defined. In its general aspect the foot somewhat resembled a case of pes equinus, being considerably shortened and arched upon its inner border, the distal extremity of the metatarsal bone and first phalanx of the great toe being adducted, the last phalanx at the same time pointing somewhat outwards. The instep presented a normal condition from the malleoli to the extremity of the internal cuneiform bone, which projected in a sharp point, raising the integument, which was stretched over it, white and glistening like a tightly bent knuckle; from the outer border of the cuneiform bone ran an evident ridge, marking the division between the tarsus and metatarsus, and defining the line for Hey's amputation of the foot.

The measurements of the injured member, as compared with

[a] This cast is in the Museum of the Royal College of Surgeons, Ireland.

those of the opposite foot, were the following:—Length of the dislocated extremity from the point of the great toe to the heel, $9\frac{1}{2}$ inches; of the uninjured foot, $10\frac{1}{4}$ inches. Breadth of the dislocated foot across its widest part at the base of the great toe, $4\frac{1}{4}$ inches; of the uninjured foot, $3\frac{1}{2}$ inches. The extensor tendons of the injured foot stood out in strong relief, raising the toes; the tendons of the sound foot could be but indistinctly seen.

These were the principal appearances which presented themselves. The patient at this time had made no effort to walk, for upon the few occasions on which he had tried to use the limb, supported by crutches, he found a total inability to move otherwise than on the heel, in consequence of pain of a burning, lancinating character being produced in the sole of the foot whenever he attempted to throw any weight upon the toes, and to place the plantar structures on the stretch.

Six months afterwards I obtained a second cast of the foot, and again carefully inspected the limb. It had now become more inverted, and the projection in the sole was less evident, having been rounded and partly removed by absorption. The patient walked freely with a stick, bearing his weight on the outer border of the foot, as in a case of talipes varus, but he could not make any effort at progression, or even move, when the foot was placed flat upon the ground, from the same burning pain before referred to, and which he described as resembling the feeling that might be imagined to result from attempting to walk in a very tight boot with a marble under the sole of the foot.

In reviewing this case, there are three points deserving of consideration:—first, the mode in which the accident was produced; secondly, the causes which prevented reduction of the displaced bones; and thirdly, the principal signs which characterize this peculiar dislocation.

By reference to the details of the case it will be seen that there were two occurrences immediately succeeding one another, in either of which the accident might have taken place. First, the fall upon the road, and second, the struggle in the water, the foot being entangled in the stirrup. I consider, however, that the excruciating pain experienced from the former places it beyond doubt that it was then that the injury occurred. I conceive that the horse falling on his side, the man's foot was crushed against the ground inverted, with the heel fixed, and incapable of receding. In this position the three inner bones of the metatarsal range would form the segment of an arch, unsupported, upon which the stirrup-iron, coming to

act in a flattened direction (pressed horizontally by the superimposed weight of the body of the animal) drove these three bones downwards and backwards amongst the plantar structures beneath the tarsus, whilst the two outer bones, from resting on the ground, escaped detachment from their articulation with the cuboid bone, and in this way the luxation was produced.

Secondly, as to the prospect of reduction in dislocation of the metatarsal bones. The sources from which our experience must be derived upon this head are limited to the cases of Dupuytren, South, Liston, and the one now under consideration, those of Professor Smith being inapplicable to the purpose: they were discovered only after death, and under circumstances which prevented that surgeon from ascertaining whether reduction had been attempted or not; they cannot, therefore, be taken into account.

Five cases then present themselves. In three reduction was affected; in two all efforts failed. In Dupuytren's first case little difficulty was experienced in accomplishing the reduction by extension, with a bandage fastened to the foot, and firm pressure made on the dislocated bones. In the second, when a period of three weeks had elapsed, several attempts to reduce the dislocation were made, but all without effect. In these cases all the bones were displaced.

In South's case of luxation of the fourth and fifth metatarsal bones from the cuboid, they were, by continued extension, reduced with much difficulty.

In Liston's case of dislocation of the first metatarsal bone upwards, from direct violence, reduction also took place.

Judging from these, then, the conclusion might be formed, that, if attended to soon after the accident, reduction may without much difficulty be effected; but the case now under consideration shows that such is not the invariable rule. What, then, is the reason for this exception? I believe it to consist in the form of dislocation. In that upon the dorsum of the tarsus the bones rest upon a smooth and oval surface, with nothing to hinder traction forwards, excepting muscular retraction. In that of dislocation downwards beneath the tarsus, on the contrary, the proximate ends of the metatarsal bones become locked in amongst the inequalities of the tarsal; and that of the great toe, in particular, becomes immovably fixed behind the tuberosity of the internal cuneiform bone, wedged in the cavity which exists between it and the cuboid bone, and, held there by the peroneus longus tendon, it defies all efforts at reduction. Failing, then, in reducing this displacement, should we leave the

case to nature, or make a further effort after dividing the tendon of the peroneus longus muscle by subcutaneous section at the ankle? I am inclined to say, leave the case to nature, and withhold operative interference for this reason—that I believe it is not the muscular contraction alone, as I have stated, but the locking of the metatarsal bones in the cavity of the tarsal arch also, which prevents reduction.

Finally, we come to the signs diagnostic of this dislocation. The foot is shortened three-fourths of an inch or more, curved inwards, and at the base of the great toe broader than its fellow by an inch. The instep stands out sharply defined, with a sudden angular prominence and marked deficiency in front. The arch of the foot on its inner border is preserved, but the centre of the sole is occupied by the tarsal extremities of the displaced metatarsal bones.

The characters of this injury are very striking, and clearly indicate the nature of the accident, and, as has been stated by Professor Smith, are so marked that it is not likely to be confounded with any other injury of the parts. In describing dislocation of the metatarsus upwards, he says, "there is, it is true, a remarkable foreshortening of the foot, and the foot is greatly deformed, but the relations which the bones composing the ankle-joint bear to each other are undisturbed. There is no elongation of the heel, as in displacement of the tibia forwards; the foot, in front of the ankle-joint, is shortened to the extent of an inch or more, but the heel preserves its natural relation to the bones of the leg."

Art. VI.—*Remarks on some uncommon Forms of Tetanus.* By William S. Little, M. B., L. R. C. S. I.; Surgeon to the Sligo County Infirmary and Gaol, &c.

In the following observations I have no intention of introducing to the notice of the profession either new views of the affection described, or suggesting novel modes of treatment; I think the cases deserving of a place in the archives of our science simply as "Curiosities of Surgical Practice," and as hitherto unobserved, or at least undescribed, phases of morbid action. To follow nature in her eccentricities and irregularities, and to narrowly observe her deviations from the ordinary course of diseased manifestations, may be looked upon rather as an interesting and curious than a useful or practical study. But I think it cannot be denied, that in the hands of accurate observers and subtile reasoners, such studies

have over and over again been made subservient to practical purposes, and thrown a very useful light on some obscure subjects of every-day occurrence and interest. I do not pretend to say that I have derived any such benefit myself from them, and honestly confess, that an unlimited confidence in the reparative powers of nature has been almost the sole result of my experience in the following and many similar, though less striking, cases.

Case I.—*Anomalous Case of Traumatic Tetanus.*—Catherine Gannon, aged 22, was admitted into the Sligo County Infirmary, January 1st, 1851. She is a married woman, seven months pregnant of her second child; has hitherto been remarkably healthy. On the 13th of December, while stooping to brush her shoe, a dog upset a loaded gun standing against the kitchen wall, which, going off, discharged (she stated) a full charge of snipe-shot, wounding the upper part of the left thigh, external aspect, near the insertion of the tensor vaginæ femoris muscle, and the left mamma in two places. She was seen by Dr. Vernon, of Tubbercurry Dispensary, under whose care, until the supervention of the tetanic symptoms, the wounds progressed most favourably.

On Christmas and the following day, she felt her teeth a little sore, and on Sunday, the 28th, first perceived the muscles on the back of the neck rigid, and a sense of stiffness and difficulty in opening the mouth; the trismus has gradually increased since, and at present the teeth can be separated only to the extent of a quarter of an inch. She has no difficulty of deglutition, no sense of constriction of throat or œsophagus, *no pain anywhere;* the left shoulder joint is very stiff; abduction of the arm impossible, and the corresponding deltoid muscle and the muscles on the back of the neck alone affected with well-marked tetanic rigidity; the tetanic countenance slightly, but very sensibly marked; appetite good, but can only eat slops; bowels regular; skin cool, but very harsh and dry; pulse 80; *feels in perfect health.* Half a drachm of mercurial ointment was ordered to be rubbed in three times a day, and she was directed to take a table-spoonful of a diaphoretic mixture every third hour.

Jan. 2nd. She has sweated considerably, and for the first time since her accident. Bowels not opened since she came in; to have a castor-oil draught, and to continue frictions.

3rd. Bowels opened twice by castor-oil draughts; copious diaphoresis; in other respects as before. To continue frictions and diaphoretic mixture. 10 o'clock P. M. She has com-

plained for the first time of tetanic spasms of both shoulders, and the peculiar præcordial pain (diaphragmatic) of tetanus, which she describes as a sense of crushing of the sternum towards the spine; had once a sense of stiffness, or involuntary extension of both legs; the spasms have attacked her about once an hour since 7 o'clock P. M. Continue frictions, and let her have a draught of forty drops of solution of muriate of morphia, to be repeated in an hour if necessary.

4th. Tetanic spasm ceased at 12 o'clock. She only took one draught; slept well towards morning; tetanic spasms frequently attacking the shoulders and thoracic muscles, not the legs. Tetanic countenance very well marked. Bowels not opened since the night before last. To have a cathartic draught, and afterwards, if requisite, a turpentine injection. Mercurial frictions to be continued. 8 o'clock P. M. Tetanic spasms, but confined to neck, shoulders, and thorax, have just recommenced. Bowels well moved twice. Continue the frictions; to have a draught containing a drachm of solution of muriate of morphia, and repeated in an hour if the spasms become urgent.

5th. Slept well from 12 o'clock at night, the paroxysms having been very severe and frequent up to that hour; the pain of scrobiculus cordis only affects her when sitting up. Continue the frictions; let her have two morphia draughts, to be used as last night, should the spasms supervene.

6th. *Spasms set in exactly at* 8 *and ceased at* 12 o'clock; were very severe, and occurred at regular intervals of half an hour. Slept well since 12 o'clock. Bowels naturally moved, and without medicine.

7th. As yesterday.

8th. Tetanic paroxysms attacked her at 8 o'clock precisely, and left at 12. Slept well after that hour. Bowels not opened since the day before yesterday. *In full ptyalism.* Frictions of mercurial ointment to be omitted; to have a gargle of chloride of soda; and to take some house medicine immediately.

9th and 10th. Sharp paroxysms every twenty minutes or half-hour from 8 till 11; mouth very sore. To have an oil draught and a draught containing a drachm of solution of muriate of morphia at night.

11th. Expresses herself better to-day, having slept well, and had but three spasmodic paroxysms at the same period of the evening and night. Bowels not opened, as the castor-oil draught was omitted by error; to be given now.

12th. Bowels opened by castor-oil; slept pretty well; had five spasmodic attacks last night, but much less severe; can open her mouth a little, but the muscles of the jaw and neck

are still very rigid. The morphia draught to be repeated as before.

13th. No paroxysm for the last twenty-four hours; in other respects as yesterday.

15th. No paroxysms now for three days. Cervical muscles and those of the jaws so relaxed as to permit of her moving her head pretty freely from side to side, and to open her mouth to about half its utmost extent. Tetanic expression much less marked; gums better.

24th. Improving every day since last report. Ptyalism gone; expression natural; general health perfect.

27th. Discharged, by her own desire, cured; child alive and apparently vigorous.

The above case presents many peculiar and interesting features; the very chronic, or, in more correct language, mild nature of the symptoms from the commencement and throughout; the maintenance of perfect general health, appetite, sleep, &c., from the 25th of December to the 13th of January—the respective dates of the first premonitory symptom and the last decided tetanic paroxysm; the prompt and satisfactory manner in which the system responded to the administration of remedies; the bowels answering to mild doses of castor-oil, and full ptyalism following the use of mercurial frictions in seven days; the circumscribed and limited character of the muscular implication; the strictly periodic nature of the paroxysms, coming and going for ten days punctually at 8 and 12, with the regularity of a clock striking the hours; and the pregnant condition apparently unimpressed either by the disease or the treatment, for at the due time the patient was delivered of a remarkably fine child.

The diaphoretic treatment, vigorously pushed for three days after admission, though I was not sure of its compatibility with mercurial frictions, was adopted on the recommendation of the late Professor Colles, the rare practical value of whose every dictum I am daily realizing at the bed-side. On referring to my notes, of which I fortunately possess a copious digest of four successive seasons' lectures, I find under this head the following:—I make no apology for giving the extract in full, as it will be a valuable substitute for any observations which I could make on the subject, and may not prove altogether uninteresting to some of my readers. On January 29, 1835, after disposing of the subject of local preventive treatment of tetanus, he says:—"But we may be further asked, is there any mode of constitutional treatment likely to prevent its occurrence? and here I would likewise reply, 'I think there is.' I

am quite sure that I saw two cases prevented, and the patients saved the infliction of this terrible malady, by the treatment I am about to mention. The first case was that of an old gentleman, who, by a fall down stairs, suffered a compound dislocation of his thumb. I saw him a few days after the accident, while the thumb was yet unreduced, and found him expressing a sense of constriction about the throat, and rigidity of neck, which he imputed to having taken a cold; he had also the tetanic countenance, which I endeavoured yesterday to describe, and which, upon inquiry from his family, I ascertained was not the natural expression of his features. I of course saw the danger, and immediately put him upon the *sudorific plan of treatment*, which happily produced a speedy and profuse diaphoresis, and *the tetanic symptoms declined;* but now, mark! a physician was at the time in attendance by desire, and he said, that as the patient was feeble and old, we should not pursue the treatment any further for fear of *dissipating his juices!* We ceased it, and the premonitory symptoms of tetanus, before mentioned, recurred, even more remarkably than at first; the sudorific plan was again adopted, and happily again relieved the symptoms. The second case was that of a horse-breaker, who, on ringing a young horse, was dragged to the ground and received a severe hurt in his back and loins; there was no external wound (but remember this is not necessary to the occurrence of tetanus); he came to hospital with the premonitory symptoms mentioned in the other case, and was speedily relieved by the diaphoretic treatment vigorously pushed."

I do not know how far I am justified in attributing the mildness of the symptoms in the case I have described to the profuse diaphoresis so early and promptly induced; from the previously harsh and dry character of the skin, it is not quite unfair to infer, viewed in reference to the above extract from Mr. Colles' lectures,—which insists so strongly on the salutary influence upon this disease of copious perspiration,—that it bore no insignificant part in bringing about the happy and unhoped-for result.

Case II.—Patrick Christie, a spare but healthy man, forty-six years of age, a farmer in comfortable circumstances, was admitted into Sligo County Infirmary, on the 14th of August, 1852, having been upset from a market-cart, within five miles of town, at 9 o'clock of the morning of the same day. He met with a very severe compound fracture of the right leg (both bones at about the middle of their shafts), which had received

the whole weight of the overturned cart, fortunately not heavily laden with firkins of butter, between the wheel and the road; the upper portion of the tibia, longitudinally fractured, and the fibula transversely, were protruded on the anterior aspect of the limb; the former for about two inches, the latter for about half an inch, through two distinct lacerated and contused wounds in the soft parts and integuments of considerable extent and depth. He had lost a good deal of blood at the time of the accident; the limb was considerably swollen from the fracture to the ham by ecchymosis, and at the time of admission there was still a free oozing from the wounds. He complained of little or no pain, and presented no symptoms of constitutional shock. The larger lacerated and contused wound, through which the tibia had protruded, was cautiously explored by the finger for portions of loose bone, or foreign bodies, but without finding any; a large quantity of fluid and grumous blood was evacuated by gently rubbing down the leg from the knee to the wound, and a bandage lightly applied to prevent its re-accumulation. It having been found impossible to adjust the fracture by any degree of forcible extension which it was deemed judicious to exert, about an inch of the sharp triangular extremity of the tibia was removed, the limb perfectly adjusted, and a good extension made with the long splint.

Second day. In the morning I was summoned hastily to the hospital at 7 o'clock to see Christie. From an intelligent young man who occupied the next bed I gathered the following particulars:—The patient had passed a restless night, moaning constantly during snatches of disturbed sleep; but when awake, not complaining of pain. At 6 o'clock he had spoken quite sensibly, and given this man a detailed account of his accident; but in half an hour afterwards, the nurse, on entering the ward, found him in a state of great excitement, covered with perspiration, knocking his broken limb about, muttering unintelligibly when left to himself, and, on being roused and questioned, merely replying that he was "very bad," and immediately relapsing into delirium.

His condition when I arrived was as follows:—The whole body was in a state of universal tremor or *frisonnement;* the face and throat were bathed with a copious cold sweat, the rest of the surface cool, dry, and contracted; pulse 110, small and feeble; respiration irregular, unequal, and panting, at intervals calm—precisely like the "cerebral respiration" so well described by Graves as occurring in some forms of fever; pupils contracted

and insensible to stimuli; nevertheless, when shaken and spoken loudly to, he opened his eyes, and *appeared* to fix them with a momentary intelligence, but immediately afterwards became profoundly insensible again; *the jaws were rigidly locked;* the angles of the mouth retracted, exposing the teeth; and the expression decidedly, though faintly, tetanic; the thumbs were flexed firmly on the palms, the fingers on the thumbs, and the fore-arms on the arms, so as to bring both hands close to each other under the chin; every eight or ten minutes, or thereabouts, the tremor ceased, and was replaced by a quasi-tetanic (?) paroxysm of an opisthotonic character, merely indicated by a slow but very forcible extension of the arms, till they lay straight and rigid by the sides, and a jerking back of the head; the sound leg and thigh, during the intervals, were in constant motion of alternate flexion and extension, so that it was impossible to prevent him kicking off the clothes, but during the paroxysms this leg was extended like the upper extremities; the toes of this side were always kept in a rigid state of extension, the tendons being thrown out, like ropes on a strain, on the dorsum of the foot; the muscles on the anterior aspect of the leg alone presenting the state of true permanent tetanic rigidity. The injured limb lay perfectly quiet during the whole period of the disease. Bowels not opened since admission.

My first object being to remove, as far as I possibly could, all source of local irritation, the system of extension was, for the present, abandoned: the long splint removed; the limb laid on a pillow, between two short and light splints, with as little restraint as possible, and the wounds water-dressed; a large cathartic turpentine enema was administered with some difficulty; and, looking upon the cerebral symptoms as those evidently of reflected *irritation*, I felt no hesitation in prescribing a full draught of morphia, henbane, and camphor, which, to my surprise, was freely swallowed in tea-spoonfuls,—a result much favoured by the loss of some teeth; and on external examination of the throat, as the sup was swallowed, I was much pleased to find that the muscles of deglutition were not in the slightest degree implicated in the matter; half a drachm of mercurial ointment was ordered to be rubbed in on the arms and thighs every fourth hour, and the draught to be repeated in two hours if the spasms continued.

Second day, evening. In the same state, save that he presents as well-marked a tetanic countenance as I ever witnessed. The enema had come down unchanged; the spasms had re-

curred very mildly every quarter of an hour; pulse 104; he has had three draughts. Repeat the enema, and continue the draughts and frictions.

Third day, morning. As before; the paroxysms not quite so frequent, and always quieter after the draught; the arms and right leg during the paroxysms still continue to be extended; during the intervals the predominant action of the flexors of the upper extremities, as before described, bring the hands in approximation under the chin; thumbs rigidly locked in the palms; the fingers on the thumbs, and the wrists at right angles with the fore-arms; respiration much quieter. Bowels not opened since admission; pulse 100, regular; has had half an ounce of mercurial ointment rubbed in, and eight draughts, containing in all about five grains of muriate of morphia, half a drachm of extract of henbane, and eight ounces of Murray's fluid camphor. A drop of croton-oil, with six grains of calomel and eight of aromatic powder, made into a linctus with treacle, was smeared on the back of the tongue, as well as could be managed. Continue the draughts and frictions.

Evening. No change, but has had the paroxysms more frequently and violently since 1 o'clock in the afternoon; bowels not opened; pulse 100. Repeat the enema, frictions, and draughts.

Fourth day, morning. Wonderfully better this morning; is conscious, but appears stupid, confounded, and, as the nurse terms it, "bothered;" the trismus so far relaxed as to allow him partially to protrude the tongue, which is white and moist; passes urine involuntarily. Countenance much improved; has had the spasms less frequently and less severely than yesterday, and none since 5 o'clock this morning: still slowly but constantly flexing and extending the left leg and thigh; gums mercurialized; pulse 88, fuller; has had three draughts since last night. Bowels not yet opened. Ordered frictions and draughts. Repeat the linctus and enema.

Evening. Bowels largely opened; two solid, feculent, scybalous, and horribly fetid stools; greatly better; still stupid and wild in his manner; does not complain or speak except addressed; has a look and manner semi-maniacal; trismus still more relaxed; some permanent flexion still of upper extremities; but the spasmodic paroxysms are quite gone, and the left leg at rest; pulse 76, regular, weak, small; a copious and fetid discharge from leg. Let him have chicken-broth and wine.

Fifth day, morning. Greatly better, quite conscious, asks

for his drink and nourishment, and greatly enjoys his wine; has had another large scybalous stool; pulse 76; no spasms since; still passes his urine under him. Omit all medicines; to have wine, broth, and panada.

Sixth day. Had a slight return of the spasms last evening, quieted at once by the draught; a drachm and a half of solution of muriate of morphia, four grains of extract of henbane, and one ounce of Murray's fluid camphor; gums very sore; still suffers from incontinence; pulse 76; appetite increasing.

Seventh day. Is much better to-day; asks for the vessel when he wants to micturate; his wife says he is still "very light in his talk," which, however, has assumed the harmless and rather agreeable shape of joking and laughing with his neighbours and the nurse; says he is "starved," but feels quite well.

Eighth day. Improving.

It will be sufficient to say, that from this period the constitutional affection ceased; and though the patient suffered considerably from profuse and protracted discharge, and, after the healing of the wound, from the supervention of two deep-seated burrowing abscesses of the calf, consequent upon necrotic exfoliations, he was discharged in about four months with a serviceable leg, and is now actively engaged in the laborious pursuits of agricultural life.

The above very remarkable and interesting case I have ventured to class in the category of those anomalously tetanic, and with, I think, good and sufficient reason. On the side of this view may be adduced—1st, the trismus; 2ndly, the slight though decided paroxysms of tetanic spasm of an opisthotonic character, alternating with intervals of tonic spasm, though this latter symptom was of a partial character, confined to the upper extremities, the jaws, and the extensor muscles of the left leg; and 3rdly, the well-marked tetanic countenance, all supervening upon a compound fracture. Against this view may be cited,—the sudden coma and prolonged insensibility; the absence of difficulty of deglutition; and the freedom from tetanic rigidity of the great majority of the voluntary muscles, almost invariably implicated in traumatic tetanus; the equally partial character of the paroxysmal spasms; and lastly, what I believe weighs more than any other consideration with the votaries of superficial diagnosis, the fact of the patient's recovery.

Having studied this peculiar case with the utmost interest and attention from hour to hour, not alone by the feeble light

of my own experience and powers of observation, or vague inductions thence derived, but with all the aid and assistance which I could command from the best authors on the subject, I have been able to arrive at no other conclusion than that it was a veritable case of traumatic tetanus,—however anomalous, irregular, and out of due course, the grouping and progression of its symptoms undoubtedly were. In Travers' excellent and philosophical work on Constitutional Irritation, embracing, as it does, a very complete history of every form and degree of constitutional sympathy with local injury, whether slight or severe, and compendious notices of all the functional derangements of the nervous system consequent on such, illustrated by so many apposite cases, I have sought in vain for a single case, or in the able observations appended to each, for an explanation of the foregoing. We have copious notices of all forms and degrees of sensorial impression, from profound coma to hyper-maniacal delirium or phrensy; and of deranged nervous action, from tremor and partial subsultus, to general, violent, and fatal convulsion, as the effect of reflected cerebral irritation after fractures, lacerations, and surgical operations;—but not one word of persistent trismus, opisthotonic spasm, alternating for five days, or for any shorter period, at intervals of ten and fifteen minutes, with even partial tonic spasm or tetanic rigidity, or the tetanic countenance. This grouping of symptoms, when boldly expressed, and clearly pronounced, is pathognomonic of this strange and inscrutable disease; and however they may sometimes appear to be simulated in hydrophobia and hysteria, belong to no other; and I think it unscientific and absurd to designate them by any other name; because they are associated with other symptoms seldom before observed or never recorded, as the early coma and prolonged insensibility in Christie's case; or because wanting in one or more elements of the generic descriptions found in books,—as the absence of difficult deglutition, of general spasm, and universal rigidity, in the same.

Unfortunately, traumatic tetanus rarely presents itself in a form likely to puzzle the most inexperienced, or to confuse or discredit his diagnosis; nevertheless, there are many such on record. So eminent an authority as Sir Gilbert Blane records a fatal case, in which "the spasms communicated a sensation rather pleasing than otherwise, nor was any pain experienced to the last." Dr. Moseley, Physician to Chelsea Hospital, who wrote in 1795, and had encountered vast numbers of cases of this disease in the West Indian Islands, confirms Sir G. Blane thus:—"I have known people in the tetanus,

with the sweat running off them from the violent pulling of the muscles, who have, nevertheless, told me that they indeed felt a distress they could not explain, yet they could not say it was actual pain"[a]. Sir G. Blane gives the detail of two other cases, in which the tetanus was entirely confined to the side on which the wound was situated, being instances of the pure pleurosthotonos of ancient writers, as Hippocrates, Ætius, Paulus Ægineta, &c. Morgagni gives a similar case of pure lateral tetanus as occurring in his practice, and another in which, after continuing general for four days, the spasms on the morning of the fifth—the day of the patient's death—were confined to the right side. Moseley—who disbelieves the existence of partial tetanus, because, in the more violent and rapidly fatal form which this disease assumes in tropical climates, he had never seen such—objects to all such cases of lateral tetanus, that they were probably—though he does not state why—associated with hemiplegia!—being not a very flattering estimate of the acumen of such observers as Morgagni, Blane, &c., nor one to which my readers are likely to attach much credit. The locking of the thumb in the hand, exactly as in ordinary infantile convulsion, though a symptom I never observed except in Christie's case, and one not recorded in books, is oddly enough stated by that acute observer, Hippocrates, who has left us so little to improve upon in his symptomatology as "an almost invariable accompaniment of the opisthotonos."

Surely those anomalous instances of painless and lateral tetanus are quite as much "out of due course" as the two detailed above; yet authors of the highest repute and most extensive experience have not hesitated to recognise them as true tetanus. Hardly any two varieties of the same disease could have presented more dissimilar features than those of Gannon and Christie, and yet the pathognomonic symptoms—trismus, opisthotonic spasm alternating with partial rigidity, and the tetanic countenance, following wounds—were the common and distinguishing features of each, and in my mind sufficiently pronounced to stamp their unmistakable character.

Having attempted to give as brief an outline of the above cases as was consistent with perspicuity, I shall hazard but one additional observation, namely, as to the curability of acute traumatic tetanus. The preceding present, respectively, fair types, the one of the chronic, the other of the acute form of invasion; in the first case fourteen days intervening between the

[a] On the Diseases of Tropical Climates, Third Edition, p. 474.

receipt of the injury and the supervention of tetanic symptoms; in the last but twenty-two hours. There are many instances, not of mere recovery from, but of the *cure of, chronic* traumatic tetanus, particularly in the records of military surgery[a]; but from anything I have myself seen, or can collect from books, I believe that fully formed and universal acute traumatic tetanus is uniformly fatal. The rare cases of recovery, few and far between, which sprinkle the pages of our copious periodical literature, or vary the almost invariable details of suffering and death in the works of standard authors, are all either of the chronic form, or of what may be termed imperfect or modified tetanus, of which the two just detailed may be esteemed examples;—the most opposite methods and systems of treatment, from the strictly antiphlogistic to the highly stimulant; from the lancet and starvation to wine and bark; from the cold affusion and cold plunge-bath to hot baths; the diaphoretic, the mercurial, the purgative, the opiate, the anæsthetic, and Indian hemp indications have all had their votaries, their hour of trial, triumph, and contempt; and yet, from the days of Hippocrates to the present, the nature and proper treatment of traumatic tetanus have ever been among the many *quæstiones vexatæ* of surgical inquiry.

For the prompt and energetic administration of mercury and morphia I confess my predilection, perhaps, on empirical grounds, and certainly without attempting for a moment to solve the knotty point of the *ratio medendi;* early diaphoresis is a treatment only applicable to very mild and chronic forms of invasion, such as Gannon's. No one, surely, in Christie's case would consent to lose time in such efforts. The mercurial and opiate treatments have the high sanction of Sir A. Cooper and of other great men, and possess the invaluable advantage over any other form of internal or constitutional treatment—that in any variety of the disease they can be energetically plied, and their full influence, so far as the disease will permit, be secured, the one by external friction, the other by enema. I have over and over again seen the influence of a full dose of morphia *almost immediately* exercised with manifest and unmistakable benefit on the severity of a tetanic paroxysm. Should we get a case of this disease in its early stage, and before the poison of irritation, so to speak, had seized on every nervous filament, and every muscular fibril, is it too much to assume that we might succeed in arresting its progress and determining what in a few hours would prove universal and

[a] See Larrey's Memoirs, Sir G. Blane's Observations; and Sir James Macgrigor, in the Medico-Chirurgical Transactions.

incurable disease, into a chronic and partial form? As respects mercury I shall only observe, that, of many cases of tetanus, I have seen but three recover, and in all three the patients were fully and severely mercurialized. Your cut-and-thrust surgical dialecticians will say, "They did not recover because they were mercurialized, but they became mercurialized because they recovered,"—a species of logic which we may safely pass without notice. Strict attention to the bowels must be observed all through, and an occasional brisk mercurial purgative, with turpentine enemata, appear to me the most suitable means of acting on, and carrying off rapidly, depraved and irritating secretions, as recommended by Mr. Abernethy. I would also suggest the necessity of sustaining the patient's strength *from the starting-post.* I am sure that I have seen more than one instance in which due attention to this point was overlooked in the anxiety to push vigorously the medicinal treatment of the case. Constitutional irritability, without a high degree of which we cannot have tetanus, is the product of deficient power; according to Hunter's definition it is "an increased disposition to act, without the power to act with," or "overaction, relative to the strength of the parts." Every hour that the disease lasts is fatally exhausting this already deficient power; and hence there are, I should say, few cases (if one at all) in which chicken-broth, beef-tea, and wine, may not be from the first judiciously exhibited.

ART. VII.—*Selections from the Unpublished Manuscripts of the late* ABRAHAM COLLES, *Professor of Surgery to the Royal College of Surgeons of Ireland.* Edited by his Son, WILLIAM COLLES, F.R.C.S.I., Surgeon to Steevens' Hospital, &c.

(*Continued from* Vol. XVI. p. 299.)

No. 4.—A PECULIAR DISEASE OF THE RECTUM.

IN many of my father's earlier note-books I find cases under the heading of "The Disease of the Rectum;" of these there are records of about twenty, and in his miscellanous papers is an *essay*, of which I cannot find the commencement, but which was evidently intended to have been read at some medical society, there is no proof however that this intention was ever carried into effect, nor do I find any notice which would induce me to conclude that it had been published. I therefore give it now, imperfect as it is, subjoining a case illustrative of the disease; this will suffice to give an idea of his view of the affection. In

conclusion, I shall append a tabular abstract of the remaining cases noted by him, adding some observations upon them.

Essay.— . . . . Such are the symptoms of the disease under which the patient labours; our next object of inquiry should be to ascertain what is the name and nature of this disease, and to learn by what treatment a cure may be finally accomplished. I regret much that it is not in my power to give any positive information on these important points; that I can only lay before this Society a sort of negative knowledge.

But, although the following remarks cannot furnish us with an insight into its nature and cure, yet I trust it may be a task not unworthy of your notice to lay before you the symptoms of this disease, which, I fancy, has been long known to practitioners, but the symptoms and natural history of which, I cannot find recorded in any surgical works. I have seen it attack patients of both sexes indiscriminately, and persons of all ranks of life indifferently. I have met with no instance where it occurred before puberty or after 60; it may attack at any age between these two periods.

Many of these unhappy people commence the history of their disease,—that their bowels had been obstinately costive for some days, or even for weeks; that they had taken very large and repeated doses of salts and other purgative medicines without having been able to procure a single evacuation; that this long continued constipation of the bowels at length gave way, and on passing a stool a large discharge of pure blood, or blood mixed with purulent matter, to the amount of some quarts, followed the evacuation. With other patients, a tenesmus for a few days preceded this costiveness; the tenesmus having continued some days, many of them then perceived a lump or fulness at the verge of the anus, which they did not notice previously, and which they conceived to have been caused by the affection. Some few of these patients cannot refer the commencement of the disease to any particular period; they have never been sensible of any lump or tumour. Such persons generally mention that they had often been subject to inward piles in the rectum.

However different the commencement of the disease may be in different patients, yet they are all similarly affected in its subsequent stages, for after this first large evacuation of blood, or other fluid, the patient is troubled with a frequent desire to go to stool, on which occasions, in general, nothing but a very small quantity of fluid escapes, sometimes a table-spoonful of a glutinous matter, sometimes more thin and liver-coloured.

Seldom is a feculent stool passed, and when it is, the patient is sensible of a contraction in the gut, or diminution in its caliber; if the fæces be hardened, the evacuation is attended with excessive pain; if of a more soft, though solid consistence, the diameter is much lessened, sometimes not exceeding that of a writing pen. They generally pass two, three, or more days without a feculent stool unless they use some article of diet or medicine for the purpose of evacuation. From the description of these patients, it appears that the tenesmus which accompanies the alvine discharges is the prime source of this distress. The stools vary in number on different days, sometimes amounting to twenty, seldom fewer than six or eight.

After the disease has continued in this state for some indeterminate period—a few months or years—the condition of the patient is rendered more distressing by a discharge of a thin, ichorous or coffee-coloured fluid, which flows from the rectum when he coughs, or walks, or uses any bodily exertion: not unfrequently his nights are rendered still more uneasy by the flow of this matter as he lies in bed. The urinary discharge is, in some instances, affected even early in the disease; in some few by a difficulty or delay in commencing this evacuation; in others, by an inability to void the last drops. In the very last stages the urine cannot be voided without causing an irresistible desire to go to stool.

If we examine the rectum we may there perceive one or two excrescences at the verge of the anus. These seem to be formed partly by the lining membrane of the gut, at least their inner surface appears like a secreting surface or excoriation. In many instances, two level excrescences lie with the adjoining edges in contact, so as to resemble the arytenoid cartilage, or the spout of an ewer. The patient being desired to press down or strain as if at stool, a few drops of a liver-coloured fluid are discharged. A hard mass can, in some instances, be felt by pressing around the anus. On introducing the finger into the rectum a hardness and roughness, caused by innumerable protuberances, is to be felt seated at different heights. In some it commences immediately at the very verge of the rectum, and extends nearly as high as the finger can reach; in other cases this morbid condition does not extend beyond that portion encircled by the sphincter; and in others again, the disease is seated still higher up. In all, considerable resistance is given to the introduction of the finger, not only by the narrowness of the canal, and its projecting irregularities, but also by the firm, unyielding hardness of the diseased portion. In one or two instances the canal of the gut was particularly con-

tracted in one spot—as if a small aperture had been left in a membrane which stretched across the gut. The introduction of the finger in all instances has given considerable pain, but if the finger be slowly passed up the gut it will be found gradually to dilate, and then admit the examination with less distress. The hardness which is felt in the substance and neighbourhood of the gut does not always uniformly surround it. In some instances the hardness is felt at one particular spot, as if a tumour lay connected with the coats of the intestine at this part. There is one symptom which is to be met with in, perhaps, every third or fourth person affected with this disease, and which deserves particular attention—it is an external fistulous opening at or near the verge of the anus, which yields a discharge resembling in quantity and quality that of the ordinary fistula, and by no means of the same quality with that passed through the canal of the intestine. I have myself, before I was aware of the nature of the disease, cut one of these patients as for fistula, and have seen more than a few instances in the hands of other practitioners, and always with this remarkable effect, that these incisions, in general, healed as kindly as if the fistula had been the only disease; and in no instance—not even one I had cut, and in which the incision did not heal up—could it be said that the operation added to the subsequent distress of the patient, or exasperated the original disease. Where the fistulous opening occurred in cases with a tumour at some particular spot of the gut, the fistula was found to lead to such tumour.

I have not been able to trace in the relation of these cases that any of the patients experienced any constitutional symptoms which could be considered as precursors or attendants on the first stage of this local disease. Nor does it, during the greater part of its progress, seem to make any impression on the constitution—indeed, my astonishment has been excited on perceiving that such trains of local distress had not produced any sensible decay in the general habit.

I should observe, that in one instance only vomiting accompanied the first attacks of this disease. Symptoms of hectic fever first denote the injury done to the constitution. The time at which these appear differ in different individuals: in some so early as six months, while others have remained with the constitution unimpaired for as many years. In one case there was not any regular hectic, the patient was reduced to the most extreme degree of wasting and emaciation that I have ever witnessed. I am inclined to think that the appearance of hectic is the only index that can lead us to a knowledge of the probable duration of the disease.

I have had the opportunity of inspecting only one of those whose death had been caused by the disease. It was the case of a gentleman who had never shown symptoms of regular hectic. Some slight marks of inflammation appeared in different spots; on the small intestines a quantity of fluid, partly composed of coagulated lymph, and partly purulent, was found in the pelvis; the alteration in structure was not confined to the rectum, but was remarkable, though not to an equal degree, along the left colon, as may be seen in the preparation preserved in the Museum of the Royal College of Surgeons. The tumour, or hardened part, was closely in contact with the anterior face of the sacrum, so as to render its separation from the bone both difficult and tedious; the bladder was much thickened and contracted. How far the state of the viscus was a consequence of the decrease in the very scanty secretions of its fluid during the last month of life, I cannot pretend to say.

From the history of the symptoms, and the appearances on dissection, I fear we can derive but little useful information which could lead to a successful mode of treatment. I shall now proceed to state the various remedies I have tried, and the results of such trial.

From the reports of Dessault, on whose authority I have always placed great reliance, I tried, in almost every case, the effects of dilatation. For this purpose I have used a variety of substances, such as prepared sponges, bougie composition rolled so as to form pessaries of various thickness, tallow candles of various sizes, adapted to the diminished capacity of the canal in each case. My expectations, which had been raised so high at reading Dessault's cases, I must say, have been completely disappointed, for when the dilatation has been used in the early stage of the disease, before any symptoms of hectic had appeared, although some had steadily persevered in its use, yet I could not discover much amendment in the symptoms, and the most regular of these persons have at length laid them aside, fully convinced by experience of their total inefficiency to afford even a mitigation of their distress. After the accession, the use of the dilating instruments could not be borne by any patient longer than one week, owing to the pain and irritation they occasioned.

Those who had been cut for the fistulous openings near the rectum did not experience any relief from the original disease, even in the cases in which the incisions had healed up. One or two of these patients seemed to think the passage was rather more narrowed after the operation.

From the supposition that the disease was cancerous, I have given the solution of arsenic in such doses as to produce the

usual symptoms attending its operation on the system, and continued its use for some time, but without producing any alleviation of the suffering. With the same view, and with the same inefficacy, has hemlock been administered.

I have used mercury in small doses, so as to excite ptyalism, and have even used this medicine as freely, and for as great a length of time, as is in general sufficient for the cure of secondary venereal symptoms, but have never been able to observe that its use afforded even temporary relief; and not unfrequently has the general health been materially injured by it. Mucilaginous fluids, combined with opium, have appeared to give more relief than any other medicine I had tried; yet this medicine has not uniformly, or even in the majority of cases, been of service. Large leechings are prejudicial.

This disease might be considered as cancerous, but, as an objection to this opinion, I must remark, that cancerous diseases are much exasperated by incisions or partial excisions, whereas this disease did not appear to be at all increased by such treatment.

The venereal disease might be suspected to be the cause of this affection; but, although it had occurred in some instances where lues had previously existed, yet all the other venereal symptoms[a] . . . . . .

Case I.—Matthew Maguire, aged 38, July 7, 1808. Two years ago he perceived that he passed, by stool, a substance resembling melted fat, distinct from fæces; also a substance like flummery alternating with it. The disease was preceded by a discharge of blood from the anus for a fortnight, and the diarrhœa was followed by tenesmus. He had syphilis the winter before; in November he was confined to bed by this complaint, when the stools were watery; he had chancre since, and used mercury; and in March scrofulous glands enlarged in his neck. At present there is a discharge like melted fat, of a greenish colour, and at times like flummery; desires to go to stool innumerable, and more frequent by night than by day, attended sometimes with tenesmus and protrusion of the rectum; no uneasiness in abdomen, nor delay in passing urine. At the anus is an excrescence resembling a cream-ewer; to the finger the anus feels more soft than natural, as if thickened, not hardened; pushed up one-half, a narrowness of the gut is felt, which yields by steady pressure; above this it feels healthy; great pain on the finger passing through the stricture; flesh wasted; pulse 110.

Post-Mortem Examination.—On opening the abdomen, the

[a] The original manuscript terminates thus abruptly.

omentum was found healthy, but devoid of fat; cœcum and colon distended, with flatus; in the tranverse colon the coats slightly thickened; ilium distended; some slight vascularity about the small intestines; no other disease; no indurated glands to be perceived; the colon and rectum, slit up, were found not thickened; no thickening or tumour in the rectum; at the seat of the structure, the inner coat of the gut had an irregular surface, as if an additional membrane was pasted over it; the remainder of the rectum and colon presented similar appearances, but in a less degree; no hardness on the spots, but considerable on the edges; the colour of the inside of the rectum was deep brown or livid near the anus, gradually diminishing near the colon; the colon had some spots of unusual vascularity, and its surface was covered with a secretion resembling that of an ulcer; a large quantity of yellow fluid was found in the right colon.

ABSTRACT OF CASES.

No.	Age.	Sex.	Duration.	Discharge compared to	Remarks.
1	38	M.	2 years.	Melted fat and flummery.	
2	34	M.	1 ,,	Hard balls in a bag of slime.	Fistula.
3	25	M.	10 ,,	Slime and reddish water.	Cut for fistula a year ago; sores size of a finger.
4	30	M.	4 ,,	Slimy matter mixed with blood.	
5	48	M.	1 ,,	Slime and pus.	Fæces flat.
6	28	M.	5 ,,	Slime, froth, and blood.	Says if he could do without eating would be as well as ever.
7	50	F.	3 ,,	Reddish fluid.	Great appetite; fat; vomiting brought on by straining at stool.
8	45	M.	. . . .	Blood and pus.	
9	36	M.	. . . .	Slime and pus.	Small hard protuberances inside of rectum for two inches up.
10	32	M.	4 ,,	Scraping of guts.	
11	23	M.	19 months.	Pus and blood.	
12	29	M.	9 ,,	Jelly, slime, and blood.	Had jaundice when twelve years' old.
13	28	F.	4 ,,	Clots of liver colour.	Often had vomiting.
14	55	F.	12 ,,	Lumps of blood.	Fistula cut; hemorrhage, followed by incontinence of fæces.
15	25	M.	12 ,,	Reddish water.	Stools pass involuntarily if not firm.
16	50	M.	9 ,,	Blood and pus.	Great pain at anus for five hours, during which he cannot pass fæces or urine.

Observations.—This is a form of disease hitherto undescribed. It differs from the known diseases of the rectum—simple stricture and scirrhous rectum. It cannot be mistaken for the former, which feels as if a smooth, narrow band was drawn around the gut; from the latter, though more resembling it, it may be distinguished:—first, by the age at which it occurs; thus we have seen it in young persons, and, on taking an average of the cases, the ages, and the previous existence of the disease, we find on the average that the disease comes on about the age of 33. Again, in scirrhous rectum, I do not think we find those profuse discharges, or the admixture of pus.

In the scirrhous rectum the constitution soon sympathizes with the disease, or even alters before the local symptoms appear, and we find the patient presents the peculiar leaden, waxy hue and thinness of a cancerous subject. In this disease the patient will retain his fresh, healthy look for years unaltered, till finally the hectic sets in. In the scirrhous rectum the finger feels the gut contracted and rough, but this is of the stony hardness peculiar to cancer, while, in this disease, the gut feels thickened, and the protuberances soft, like large flabby granulations.

These are, in my opinion, differences sufficient to enable us to distinguish between the two diseases, and to authorize us to regard them as separate and distinct. And even should they be considered as the same disease, I think the paper worthy of publication, as attracting attention to a form of the disease of which we have no very full or satisfactory account, as far as I am aware, and symptoms are here noticed which have not been sufficiently regarded in the accounts of it hitherto given.

There is at present under my observation a woman who was attacked with this disease at the age of 25. She was five years under treatment by every possible means, including the strongest caustics, without any effect; she was then admitted into that valuable institution, the Incurable Hospital, where she has now been for nearly thirteen years. Yet she is still stout and healthy-looking, though suffering at times great pain; the bowel protruding on any exertion, and so contracted as to scarcely admit a No. 4 catheter. She is constantly annoyed by the discharge of the jelly-like fluid, and is enabled to procure a fæcal evacuation about once in the week by medicine, which induces a great aggravation to her sufferings, attended with vomiting, &c. It at one time appeared to me that this would be a form of disease in which the operation of forming an artificial anus might add to the patient's comfort, and prolong life indefinitely, for here the original disease is not malig-

nant: yet, when we see a case like this, where the patient can exist for such a number of years, and remain in health and flesh, whilst the caliber of the rectum has not allowed any matter to pass of a size larger than a goose-quill, we feel a hesitation in urging such an operation, at least until the later stages of the disease indicate danger to the patient's life from the greater narrowing of the canal.

Art. VIII.—*Contributions to the Pathology of the Heart.* By Benjamin George M'Dowel, A. B., M.D., one of the Physicians to the Whitworth and Hardwicke Hospitals, Lecturer on Anatomy and Physiology in the Carmichael (formerly the Richmond Hospital) School of Anatomy, Medicine, and Surgery, &c.

(*Continued from* Vol. XVI. p. 81.)

Section IV.—tricuspid regurgitation—effects of dilatation of the right side of the heart.

Whilst the valvular apparatus of the right side of the heart is to a remarkable degree exempt from disease, it must be admitted that the muscular structure of the right auricle and right ventricle is liable, even more than that of the corresponding cavities of the left side, to structural changes. The explanation of this fact is contained in the now generally admitted axiom, that morbid changes in the heart are propagated in a direction contrary to the course of the circulation. Hence all diseases of the heart which interfere with the free transmission of the blood through its left cavities, or of the lungs, which in any degree produce permanent obstruction to the pulmonary circulation, are, sooner or later, productive of hypertrophy, and subsequently of dilatation of the right ventricle and right auricle. Dilatation and hypertrophy of the right side of the heart are consequently, in a large proportion of instances, to be regarded as secondary affections.

In a former paper I endeavoured to illustrate by a series of cases the pathology of dilatation of the heart, especially as regards its effects upon the system generally. In those instances, however, this lesion affected the left chambers principally; or, where the right cavities were implicated, such change was consecutive to disease originating in the left side. In a few instances only were both sides equally affected; but the following cases present marked examples of excessive dilatation engaging the right auricle and right ventricle almost exclusively.

Progressive dilatation of the cavities of either side of the heart eventually leads to dilatation of the orifice by which they communicate; and in the following instances, accordingly, dilatation of the right auricle and right ventricle was complicated by a permanently patent condition of the right auriculo-ventricular opening: these cases, therefore, are illustrative not only of the general symptoms of dilatation of the right side of the heart, but also, and in an especial manner, of the signs and symptoms of "Tricuspid Regurgitation."

Case XIII.—*Dilatation, with Hypertrophy of the Right Cavities of the Heart. Tricuspid Regurgitation.*

Robert Leonard, aged 36, was admitted, under my care, into the Whitworth Hospital, February 10th, 1849, labouring under the general symptoms of confirmed cardiac disease. He suffered from cough, breathlessness, and urgent dyspnœa; his face was of a dark purple colour from excessive venous congestion; the superficial veins were universally distended, and general dropsy existed to an extreme degree; the jugular veins, in common with all the superficial veins of the body, were turgid; jugular pulsation existed, but was to a great extent concealed by œdema of the neck; profuse epistaxis frequently occurred; at other times there was hemoptysis; so that these two forms of hemorrhage might be said to alternate. In addition to these symptoms, which collectively denoted cardiac obstruction, the following physical signs were observed:—The impulse of the heart was strong, expansive, and widely diffused, whilst the radial pulse was relatively small and very weak; a single hoarse murmur, which accompanied the systole of the heart, was loudly audible over the region of the apex, but could not be traced in the trajet of the great vessels. This murmur was persistent. Lastly, there were evidences of extreme congestion of the lungs, whilst the liver was considerably enlarged.

The urine, which was albuminous, presented a dark, muddy appearance, denoting the additional complication of renal disease, which the previous history of the case rendered more than probable.

This man had been under my care in the early part of the year 1846 for acute albuminuria, induced by exposure to cold whilst he was under the influence of mercury for secondary syphilis. Anasarca, and general febrile disturbance, were the prominent symptoms at this time. Under the usual treatment, these were removed, and apparent recovery ensued; but at

the time of his leaving the hospital, although no trace of dropsy remained, the urine was yet albuminous, with a specific gravity considerably below the average of health. His habits, which had been extremely intemperate, underwent no change, so that he never regained good health. Symptoms of cardiac disease made their appearance soon afterwards; epistaxis, and attacks of difficulty of breathing, became of frequent occurrence; and dropsy, now depending on cardiac, and not as before on renal derangement, once more made its appearance. Treatment was in this case productive of little benefit; the dropsy, in particular, proved more than usually intractable. The abdomen filled so rapidly that paracentesis was soon imperatively demanded. The relief thus afforded was of but very short duration. The fluid quickly accumulated again; the paroxysms of dyspnœa became more and more urgent. There were repeated attacks of profuse pulmonary hemorrhage; delirium at a later period ensued; and death finally took place in one month after his admission into hospital.

During the time this case was last under observation the physical signs underwent no change. The persistent systolic *bruit*, confined strictly to the region of the apex, indicated mitral regurgitation; whilst the general symptoms rendered it probable that there coexisted either mitral narrowing or general dilatation of the heart: that the right side, at least, was dilated and engorged, was sufficiently manifest.

Post-mortem Examination.—The heart was excessively enlarged, and was both dilated and hypertrophied: these changes affected the right side chiefly. The right auricle and right ventricle were greatly enlarged, whilst their walls—especially those of the right ventricle—were considerably thickened. The muscular tissue of the heart was firm and of healthy appearance; the right auriculo-ventricular opening was dilated to at least twice its usual dimensions. The tricuspid valve was healthy, but necessarily inadequate; its carneæ columnæ were much hypertrophied. Dilatation, with hypertrophy, likewise existed in the left cavities, but in a comparatively slight degree. The larger venous trunks were gorged with blood. The lungs were congested, and in several places pulmonary apoplexy was fully developed. The liver was enlarged and greatly congested. The condition of the kidneys was overlooked; but the symptoms, in connexion with the previous history, leave no doubt that these organs were likewise in a diseased condition.

The remarks already made on the obstructive influence of excessive cardiac dilatation receive a further confirmation from

the case now detailed. In this instance the general symptoms were those which usually attend obstructive valvular disease, and on analysis it is not difficult to assign to each its proper source. Thus, the pulmonary congestion, hemoptysis, and consequent pulmonary distress, are referable to dilatation of the left side of the heart; whilst to the dilated condition of the right cavities peculiarly belong the profuse and frequent epistaxis, venous congestion, dropsy, and enlargement of the liver. The chief peculiarity of the case consists in the altered relation which the morbid changes bear to each other. In general, enlargement of the right side of the heart occurs as consecutive to disease either in the left side of that organ or in the lungs, which interferes with the free transmission of the blood through the pulmonary capillaries; but here, on the contrary, dilatation engaged the right cavities primarily, giving rise to rapid and excessive engorgement of the venous system, and, as the result of this venous obstruction, changes similar to those originating in the right cavities became subsequently impressed upon the left auricle and left ventricle. Such being the sequence of the morbid changes, we can better understand some peculiarities in the symptoms: thus, epistaxis preceded hemoptysis; and engorgement of the venous system and resulting dropsy were developed early, and not as they usually are at a late period in the history of the case.

I would lastly notice this peculiarity, that without the existence of contraction in any orifice or in any valve, we have here an instance of vigorous action of the heart (as indicated by the force of its impulses), co-existing with marked feebleness of the radial pulse. But the vigorous impulse of the heart was due alone to the contractions of an hypertrophied and enlarged right ventricle, and falsely represented the efficiency of the systemic circulation.

Valvular inadequacy (the inadequacy of the tricuspid valve) was in this instance the result of dilatation of the right cavities of the heart, and so far resembles Case XII. In Cases I. and II. the mitral valve was rendered inadequate by excessive dilatation of the heart's left cavities; just as dilatation of the aorta, as has been shown by Dr. Corrigan, may produce "permanent patency" of that vessel, although its valves are intrinsically healthy.

In the following case tricuspid regurgitation was likewise the result of dilatation of the right auricle and right ventricle, depending on the existence of a direct obstacle to the transmission of blood through the pulmonary vessels.

Case XIV.—*Tricuspid Regurgitation. Dilatation with Hypertrophy of the Right Cavities of the Heart. Cirrhosis of the Right Lung, and Obliteration of the Right Pulmonary Artery.*

John Fay, a man of middle age, first came under my observation in May, 1850, when he was admitted into one of my wards in the Whitworth Hospital, labouring under general anasarca. He had a troublesome cough, and his breathing was much oppressed; his face was swollen and bloated, and his lips were livid.

In reply to our inquiries he stated, that he had laboured under an affection of the chest for five years and a half, which commenced with acute symptoms like those of pleuritis; that, notwithstanding active treatment, he did not perfectly recover, for there remained cough, with more or less of pain in the side, oppression of breathing, and occasional hemoptysis.

Dropsy had appeared six weeks previous to admission. The physical signs indicated cirrhosis of the lung, and were as follows:—The right side of the chest was manifestly much diminished in size (being one inch and a quarter less opposite the nipple); there was flattening beneath the right clavicle, and the whole of the right side was almost motionless in respiration, whilst its lower three-fourths were absolutely dull to percussion. The upper lobe of the right lung gave on percussion a morbidly clear sound; the same clearness on percussion likewise prevailed over the left lung, so as to replace the normal dulness of the cardiac region, and encroach on the limits of the anterior mediastinum. The heart was transposed from left to right, and its apex impinged against the parietes immediately below the right nipple. The natural respiratory murmur was distinctly heard in front of the apex of the right lung, but over the remainder of this lung, and especially from the spine of the scapula downwards, loud tubular breathing, and bronchophony, with occasional mucous rales, were audible. Immediately beneath the scapular ridge were, muco-crepitus amounting to gurgling, and intense pectoriloquy. The expectoration was muco-purulent and copious. The left lung was free from disease.

My reasons for believing that cirrhosis of the lung, rather than phthisis, existed in this case may be thus briefly stated:—1st. The chronicity of the disease. 2nd. Its limitation to one lung. 3rd. The apex of the lung being less implicated than the base. 4th. The predominance of the signs of solidification over those of softening. 5th. The existence of dexiocardia;

the heart being displaced towards the diseased lung. 6th. The absence of hectic and of laryngeal disease.

In six weeks the dropsical effusions, which depended no doubt on obstruction to the pulmonary circulation, were completely removed, and the patient left the hospital.

July, 1851. He was readmitted, labouring under the same symptoms of pulmonary disease, but in an aggravated degree. Careful examination satisfied me of the persistence of the physical signs which had existed fourteen months previously, and confirmed me in the diagnosis then formed as to the existence of cirrhosis of the lung. The condition of the heart, at this time especially, engaged our attention. It has been stated that this organ was displaced to the right of the sternum, and in this new situation a very distinct bellows murmur was discovered to accompany its systole. This *bruit* was loudest over the apex. The jugular veins, as also the veins of the upper extremities, were remarkably turgid; jugular pulsation was not distinctly perceived, but the œdema of the neck in a great measure obscured the veins.

The patient again left the hospital relieved, and was once more readmitted, January, 1852, into one of Dr. Banks' wards, who, knowing the interest I had taken in the case, kindly transferred it to my care. At this period Fay's condition was much changed for the worse, his entire body was anasarcous, and he suffered from the most intense dyspnœa. His face was bloated, and perfectly livid from congestion. In addition to signs of thoracic disease formerly observed (and which were once more verified), there now existed congestive pneumonia of the base of the left lung. The right side was become still further contracted, and now measured two inches less than the left; the intercostal spaces also were narrowed. The apex of the heart, as before, beat beneath the right nipple, and a systolic bellows murmur was yet evident in this situation. He died four days afterwards.

Post-mortem examination[a].—The right lung, which was not much larger than the closed hand, was remarkably dense; a section of it presented the appearances of cirrhosis; the bronchial tubes, however, were not dilated, in which respect it differed from cirrhosis, as described by Dr. Corrigan. The pleura was an inch thick, the costal and pulmonary layers were but partially adherent, and in the spaces or cavities thus left upwards of a quart of clear serum was contained. The left lung was augmented in volume, congested, and œdematous; the

[a] Proceedings of the Dublin Pathological Society, New Series, p. 276.

latter changes, however, were of recent origin. The heart lay behind and to the right of the sternum, having its apex directed to the right side. Its left cavities were normal, but those of the right side were enlarged, and their walls remarkably thickened. The right auriculo-ventricular opening was much dilated. The trunk of the right pulmonary artery was completely filled up by a firm, laminated, but colourless coagulum of fibrine, which was adherent to the lining membrane of the vessel. The left branch was larger than natural, but unobstructed.

I have entered thus fully into the details of this remarkable case, as it presents new and unusual combinations of disease. With reference to its essential features, it is to be regarded as a new variety to be added to the extensive class of diseases in which dilatation of the right side of the heart is met with as the result of pulmonary obstruction. These, however individually numerous, admit of being arranged in three groups or subdivisions. In the first the source of the obstruction is relatively remote, as in contraction of the left auriculo-ventricular opening; or, more distant still, as in aortic valve disease. The influence of these diseases, especially the former, in causing enlargement of the right side of the heart is sufficiently established. In the instances of the second group, we find the obstruction to consist in morbid conditions of the lungs themselves, depending, for example, on those structural changes which result from repeated attacks of bronchitis, or contractions of the chest, the result of pleuritic effusions, or it may be on original defective development of the lungs, as has been ably demonstrated by Dr. G. H. Barlow[a]. In the third group may be included those cases in which the obstruction is found yet nearer to the heart, viz., in the pulmonary artery, either in one of its branches, as in the case of Fay (Case XIV.), or at the mouth of the great trunk itself. The pathology of the latter affection has yet to be determined.

In the case last detailed the sequence of the morbid changes in the heart and lungs may be stated to have been the following:—Cirrhosis of the right lung and contraction of the corresponding side of the thorax; hypertrophy of the right cavities of the heart; gradual diminution in the amount of blood transmitted through the right pulmonary artery, and final cessation of the circulation through that vessel, owing to the formation within it of a firm coagulum. Hence, owing to the increased resistance, there resulted enlargement of the right ventricle and auricle,

[a] Guy's Hospital Reports, First Series, vol. vi.

dilatation of the right auriculo-ventricular opening, tricuspid regurgitation, excessive venous congestion, dropsy, and enlargement of the liver.

The physical signs of tricuspid regurgitation have been fully elucidated by various observers, but they are seldom presented to us in so isolated a form as in the preceding cases, because a permanently patent condition of the right auriculo-ventricular opening, on which regurgitation depends, is generally associated with other cardiac lesions already adverted to. Hence the special phenomena of tricuspid regurgitation are liable to be more or less obscured. In the cases detailed in this paper, the patent condition of the right auriculo-ventricular opening was consequent on dilatation of the cavities which it connects. In accidental rupture of the chordæ tendineæ of the tricuspid valve, we are presented with an equally efficient and more direct cause of tricuspid regurgitation. Of this rare lesion Dr. Robert Todd has published a most interesting case[a], in which the physical signs were equally distinct and isolated. The phenomena in this case will, on comparison, be found to agree in all essential points with those which existed in the examples detailed in the preceding pages.

From a review of all these cases the signs of tricuspid regurgitation are directly deducible, and may be thus enumerated:—

1. Venous congestion (and the various morbid conditions which it gives rise to, as dropsy, epistaxis, hepatic engorgement, &c.)
2. Jugular turgescence and pulsation.
3. Strong impulse of the heart, coinciding with feebleness of the radial pulse.
4. The signs which indicate enlargement of the right side of the heart.
5. A bellows murmur, accompanying the systole of the heart, and situated over the region of its apex, but extending towards the right rather than towards the left side.

Of these, the first mentioned can alone be regarded as constant; for although there exist a patent right auriculo-ventricular opening, and free regurgitation, yet excessive dilatation of the right ventricle, especially if combined with softening of the muscular tissue, will, owing to the enfeebled condition of the heart, prevent the development of an audible *bruit.* (Case xii.)

In Dr. Todd's case, already alluded to, hematemesis was of

[a] Dublin Quarterly Journal, vol. v. p. 1.

frequent occurrence, and is no doubt correctly traced by Dr. Todd to extreme hepatic congestion.

It has been already mentioned that tricuspid regurgitation is not an unfrequent accompaniment of contraction of the left auriculo-ventricular opening, in an advanced stage[a]. In some cases of mitral narrowing, the bellows murmur is lost at this period; in others it is plainly distinguished to the very last. I am very strongly impressed with the idea, that in some instances at least, of the latter class, we are to connect the persistent bellows murmur with the dilated tricuspid, and not with the narrowed mitral orifice; in other words, that it depends on tricuspid regurgitation. This explanation assists in removing the apparent anomaly, occasionally met with, of a distinct systolic *bruit* (which denotes free regurgitation), coinciding with extreme mitral narrowing; and that it involves no improbability will appear from a brief review of the morbid changes which are in progress in such a case. The mitral orifice is undergoing a process of gradual contraction: hence, owing to a combination of causes, some of which I have already alluded to[b], the murmur which at first denoted that change becomes gradually extinguished. But in proportion as the left auriculo-ventricular opening becomes constricted, a patent condition of the right auriculo-ventricular opening becomes established, and a new source of murmur is thus developed (as Cases XIII. and XIV. abundantly prove). This murmur will with difficulty

[a] This relationship was first pointed out by Mr. Adams. To the same accurate observer we owe the explanation of the phenomenon of jugular pulsation, who proves its dependence on tricuspid regurgitation (Dublin Hospital Reports, vol. iv.). I have thought it unnecessary to enter on the physiological question so directly connected with this subject, as Dr. Stokes, in his recent work on "Diseases of the Heart and Aorta," has given it the fullest consideration, and has vindicated the originality of Mr. Adams' views on what has since been termed the "safety-valve function" of the tricuspid valve. Entertaining the same sentiments, I made the following remarks in a communication to the Pathological Society, when exhibiting the morbid appearances in the case of Fay:—"It is generally admitted, that whenever, from temporary causes, the pulmonary circulation is obstructed, the right ventricle is relieved fom the pressure of the accumulating blood by regurgitation being allowed to take place, by a separation of the flaps of the tricuspid valves. In this specimen there was a permanent obstruction in one of the great pulmonary trunks, a condition which would render this provision indispensable. The important physiological fact here alluded to was first briefly noticed by John Hunter, subsequently Mr. Adams, in the Dublin Hospital Reports, directed special attention to it, and showed its connexion with certain pathological changes of the heart. Of late years, in Guy's Hospital Reports, Mr. King has described the anatomical mechanism by which this regurgitation is permitted by the tricuspid valves, and which he has styled its 'safety-valve function.'"—January 24, 1852.

[b] Vol. xiv. of this Journal, page 362.

be distinguished from that which is of mitral origin, since both are synchronous with the systole of the heart, and situated over the region of the apex. Under the circumstances thus sketched out, the following order of phenomena would present themselves:—Loud systolic murmur in the earlier stages of mitral narrowing; gradual diminution and perhaps extinction of the murmur in the later stage; gradual development of free regurgitation through the right auriculo-ventricular opening, and reappearance of a systolic murmur, depending now on tricuspid, and not, as in the earlier stages of the disease, on mitral regurgitation. Such a train of phenomena I have distinctly traced on more than one occasion, though I am at present unable to sustain the explanation I have suggested by any proofs which could be regarded as unexceptionable.

Art. IX.—*Practical Observations on Cauliflower Excrescence, and other Cancerous Affections of the Os Uteri*[a]. By Robert Johns, A.B., M.B.T.C.D., L. & F.R.C.S.I., Member of Council of the Surgical Society of Ireland; late Consulting Accoucheur to St. Peter's Parochial Dispensary; Ex-Assistant Physician to the Lying-in Hospital, Dublin; Vice-President of the Obstetrical Society; and Chairman of the Midwifery Court of Examiners of the Royal College of Surgeons in Ireland, &c.

In contemplating the fearful ravages occasioned by cancer and carcinomatous affections of the uterus, and reflecting on the peculiar apprehension with which such diseases are viewed by those liable to their attacks, the physician becomes forcibly impressed with the importance of any curative measures which could possibly tend to their alleviation, and of the duty that must rest on him of communicating to his professional brethren any such measures, should they come within his knowledge. Cancer is, perhaps, not curable, but therefore is it the more necessary to determine the exact disease which shall fall under that category; for I apprehend there are some affections hitherto regarded in that light not only susceptible of relief, but permitting a radical cure.

It may be in the recollection of some that, in a discussion which recently took place at the Surgical Society on a fatal case of cauliflower excrescence of the os uteri, I hazarded an opinion that the fatal result was attributable to the circum-

[a] Read before the Surgical Society, May, 1853.

stance of an imperfect extirpation of the disease; and that had the cervix uteri, which is always engaged, been removed along with the morbid growth, the case would have terminated otherwise. I also stated my view of the best mode of performing the operation, namely, by applying a ligature to the cervix for twenty-four or thirty-six hours to prevent hemorrhage, and then removing the entire by the knife. I am now enabled to present a case illustrative of these observations; but previously, perhaps, it may be advantageous to consider the general views under which this class of diseases is regarded by the profession.

I will not now enter into a review of all the different opinions that have from time to time been advanced as to the real nature of this affection, as I believe that now-a-days there exists almost an unanimity on the subject, but I shall content myself by alluding to those of some of the principal authorities on the disease.

Dr. John Clarke, of London, who was the first to describe it, says, "that it may occur at all ages, is always fatal; that many of the symptoms which characterize cancer are absent; and that he considers himself justified in giving to it the name of cauliflower excrescences, as it is in some degree descriptive of its structure." Sir Charles Mansfield Clarke "supposes the structure to be analogous to arterial or blood nævus (fungous hæmatodes of the French), caused, perhaps, by some of the small arteries near the os uteri having undergone morbid dilatation. He has seen it fatal at twenty years of age." Patrix describes it under the title of "cancer par exuberance." Virchow, Paget, and Professor Bennet speak of it as "epithelial cancer." Professor Anderson, of Glasgow, "as a peculiar form of encephaloid cancer." Lever classes it, together with cancer, under the head of "malignant diseases." Duparcque describes it under the title of "mural or mushroom-like cancer." Boivin and Dugès as "fungoid or encephaloid cancer." Simpson, "that it is a disease which in its ultimate course always takes a malignant action, whatever difference of opinion may exist as to its pathological nature in the incipient stages."

Having seen very many cases of the cauliflower excrescence within the last few years, my experience as to its comparative infrequency is at variance with that of Lever, but I agree with him, in common with others, as to its malignancy, and for the following reasons:—1. The universal cancerous aspect of the patient. 2. There being as yet no evident assignable cause for the disease. 3. Its hereditary tendency in some, cancer having attacked other members of the family in some form or other.

4. In many the lancinating pain of cancer being present. 5. Its frequent, nay, almost constant return after its removal by ligature or otherwise. And lastly, the microscope, in all cases where used, revealing its malignant nature. A portion of the tumour, which was broken off whilst adapting the touchee in the female who is the subject of the essay, was examined microscopically by Dr. Fleming, and he declared it to be highly malignant.

The clustered fungous cancer sometimes follows on granular ulceration of the os uteri, and is likely to be mistaken for cauliflower excrescence. May not this fact in some degree favour Sir C. M. Clarke's theory as to the pathology of the latter disease?

The amputation of the cervix uteri, for the cure of cauliflower excrescence, has been recommended, and successfully performed by Dupuytren, Lisfranc, Boivin and Dugès, Lever, Simpson, and others. Simpson says:—"If any radical operation and cure for this disease be attempted, the excision of the tumour, together with the whole of the vaginal portion of the cervix uteri, to which it is attached as a basis, appears to us the only measure which can at all be hoped to insure ultimate success."

Boivin and Dugès thus express themselves on the subject:—"The ligature may effect a temporary, though not a permanent, cure of this form of cancer; the same may be said of excision. The cure would generally, perhaps, be more certain, if the os uteri, or that part of it where the fungus was seated, were removed together with the excrescence or after its separation by the ligature."

In many of the recorded cases above alluded to the females had remained free from any return of the disease for several years afterwards; some of them had borne children at the full time[a]; no doubt in some relapse had taken place, but, in my mind, attributable to one of the two following causes. The partial or complete removal of the tumour without the tainted cervix, as in the case of Susan N., published in the Dublin Medical Press for December, 1849; as also in the case of Crawford in the twenty-sixth volume of the former series of this Journal; or, secondly, the system having been too much contaminated; or, as Duparcque says, "The organic predisposition which influenced the development of the primary affection might have created a relapse in parts of the uterus left by the

[a] Lisfranc was of opinion that abortion was inevitable in a pregnant woman whose cervix uteri had been removed.

intrument, although they were uninvolved at the moment of the operation."

The mode of obviating such a sad result in the one case is evident; and in the other might we not subject our patient to a line of treatment by arsenic, or some similar remedial agent, for months prior and subsequent to the operation? M. Hendriski, near the Hague, some years since told me, that he had frequently and successfully employed such means in the cancerous affections of the female breast. This suggestion, I think, may in a measure meet the objection to operation in certain cases thus urged by Lever:—"In my opinion," says he, "it is useless to remove the diseased portion, however favourable the case may be, unless we can remedy the cancerous diathesis which exists in these patients, and which leads to the development of the disease in the uterus, or in some other distant organ."

In some cases where cure was not complete, not only was life prolonged by operation, but the unfortunate sufferer had enjoyed comparative health, so as to have been able to attend to her several duties for months, even those of a most laborious nature, although she had been very much prostrated by debility consequent on the disease prior to artificial interference. Ingleby and Simpson have noticed this fact.

From my own, and the collective experience of others, I should say that the cases in which the amputation of the cervix uteri is indicated, and may be adopted with any reasonable hope of success, are extremely limited:—1. To those in which the disease is confined to the os or cervix, there being a sufficiently healthy portion below the insertion of the vagina into the superior part of the cervix uteri, for the application of the ligature or the knife. Within the last year and a half two cases, illustrating this fact, have come under my notice: the one a nurse-tender, who would not submit to any operation whatever; however, under the pretext of examination, I broke away the disease, and used the actual cautery ONCE: after which, for several months, she was able to and did follow her calling—but eventually the disease returned, and she died in *great torture.* When I first saw her the case was likely to be cured by operation; this shows with what rapidity this disease progresses. The other case is that of a domestic—but here the whole cervix is diseased; in her I removed by ligature as much of the disease as was possible, and used the actual and potential cautery. By the occasional adoption of the latter treatment, I have been enabled as yet to keep the disease in check. She is at present in service, and can hardly be persuaded that the

disease is not removed, as she has lost all her bad symptoms, and says she has not for years enjoyed such good health.

2. To those in which the affection is not curable by other means, is of a malignant nature, and not hereditary; the lymphatic glands and surrounding areolar tissue healthy, and no organic disease elsewhere.

Lisfranc declared that he operated with success in a case where the right ovary was engorged to four times its natural size, and that in six years afterwards the tumour was stationary, under appropriate treatment. Indeed, from his own account of himself, it would be difficult to say in what case this "indefatigable leveller of uterine necks," as M. Duparcque styles him, would not have operated.

The fact of the inguinal glands alone being enlarged, should not deter us from operating, as I have frequently known them when similarly affected in simple inflammation of the os and cervix uteri, to become of the natural size on the removal of the disease: the cause of their morbid condition, no doubt, having been irritation. Desault and Soemmering have alluded to this fact.

In some of the recorded cases of this disease, before alluded to, the female has been carried off by diseases not at all referable to the operation. This liability, in those suffering from uterine complaints to intercurrent affections, I have frequently witnessed; and during the last winter many of my patients have more than once been attacked by the prevailing epidemic of the season. I perceive, by the late edition of his work, that this fact has not escaped the notice of that acute observer and eminent uterine pathologist, Dr. Henry Bennet.

It may not be irrelevant to the subject to state here, that whilst advocating the operation of amputation of the cervix uteri, I wish it to be distinctly understood I would not adopt it in many of the cases in which it has hitherto been resorted to; and as Dr. Bennet's opinion and mine coincide as to its total inapplicability in other than cancerous affections, I think it best to transcribe his observations here. He says:—

"In speaking of the surgical treatment of hypertrophy of the cervix uteri, I have not hitherto even alluded to amputation of the enlarged neck, as I consider it an unjustifiable operation in those cases. Amputation of the hypertrophied cervix is difficult to perform, and is attended with great danger from hemorrhage, as is shown by Lisfranc's cases, many of which, no doubt, were instances of inflammatory enlargement. Moreover, it is next to impossible to remove the entire extent of the hypertrophy, which is usually connected with the uterus

by a large base; and what remains, generally speaking, soon assumes as great a development as before. I have seen several cases in which amputation of the hypertrophied cervix had been resorted to, probably under the impression that the disease was cancerous; but on close examination it was clear that a portion of the hypertrophied tissues only had been removed, and that the condition of the patient was but little improved by the operation. Amputation of the cervix is, in my opinion, an operation to be discarded from practice, except where cancerous or cancroid pedunculated tumours, growing from the cervix, are recognised in a sufficiently early period of their existence to render their entire removal possible, along with that portion of the cervix from which they proceed."

Dr. Simpson, when writing on the subject, remarks:—"I have excised the part when affected by chronic induration and thickening without carcinomatous degeneration; but I would now, most assuredly, by no means resort to it again under the same condition, as I believe that morbid state of the cervix to be quite removable by milder measures."

I have myself very frequently removed extensive hypertrophy of the cervix uteri, and also chronic induration with thickening in this organ, by other and safer measures than amputation, into the consideration of which I shall not at present enter, as I hope at no distant period to return to the subject. However, in illustration, I may be permitted to allude to one case. Not long since I was consulted by Mrs. L., who was suffering from extensive hypertrophy of the os and cervix, the posterior lip extending about half an inch below the anterior. On inquiry I found that another medical gentleman had amputated the latter some months previously, and had decided on a similar treatment for the posterior; but as the lady *had not received any benefit* from the operation, she determined not to submit to it again. When I saw her the disease had evidently been redeveloped in the anterior lip; and from her own account a very large portion had been taken away by the knife. I had the satisfaction of removing the disease from this lady, and of restoring her to a state of health which she had not enjoyed for years previously, by a treatment totally apart from excision.

Independent of the inadmissibility of this operation, when we take into account its very many serious consequences, as hemorrhage, phlebitis, hysteritis, peritonitis, metro-peritonitis, and extreme nervous depression, which are mentioned by Duparcque, Lisfranc, Pauly, Velpeau, Blandin, Hervey de Chegoin, Lever, and Simpson, and which all practical men know

are most likely to follow on its adoption, I think it is one that ought not to be had recourse to except in extreme cases.

With a view of preventing this disposition to inflammatory affections now alluded to, Duparcque recommends one or two preparatory bleedings for some days previously to operations. Of this practice I do not approve, as, according to my experience, females afflicted with diseases calling for amputation of the os and cervix uteri are, when they apply for relief, most generally too much weakened by the disease to bear the least depletion; and besides, I consider the prophylactic treatment by mercury to be as efficacious and less hazardous; and it is one I always recommend and adopt in any case which I may think likely to be followed by inflammation. The eminent success which follows the operations of the French surgeons appears to me, in a great measure, to depend upon the employment of a similar line of treatment.

Mrs. ——, aged twenty-nine years, a scrofulous, delicate-looking woman, married eight years, and mother of four living children, was admitted into the Meath Hospital on the 10th of November, 1852. She stated that she had been in bad health for a year or so previously. Her labours were quick, natural, and followed by good recoveries. The catamenia, which were painless[a], first appeared at sixteen years of age, had regularly returned monthly, except during pregnancy and lactation, up to the seven months immediately preceding her admission, during the whole of which period there had been a continued and excessive hemorrhage per vaginam, confining her for the most part to bed. The face was of a dirty yellow, anemic, and malignant aspect; the eyes sunken and surrounded by a dark circle; the digestion much impaired, with loss of appetite, flesh, and strength; the bowels regular, but much distended from flatus. She suffered very much from constant giddiness, accompanied by fear, but without cephalalgia, from anhelation on the slightest motion, much pain over the hepatic region, in the breasts under the nipples, across the loins, accompanied by weakness, and over the sacrum and down the legs; there was also a constant burning sensation over the uterus, a darting[b] lancinating pain up the vagina, with uterine inertia and great enlargement of the inguinal glands. For a

[a] Some authors have stated that the great majority of females suffering from cancerous affections of the womb have had dysmenorrhœa in early life. In very few of those whom I have seen for some years had there ever been any derangement of menstruation during that period.

[b] Sir C. M. Clarke states that the pain in this disease is never of this character.

short while antecedent to the hemorrhage a vaginal discharge, of a purulent and sometimes watery nature, was present, which latter was not at any time copious, nor preceded by moisture of the parts. The hemorrhage was excessive from its invasion, and not gradual, as in most cases. On examining digitally, about half way up the vagina, which was far from being relaxed, there was found a large, firm, lobulated, insensible tumour, growing from and embracing the entire of the os uteri, lying obliquely against the sacrum, and in consequence of its brittleness breaking down with loss of blood on the least degree of pressure. The speculum being used was immediately filled with blood, which, being removed by a piece of sponge, revealed the rough tumour already described, of a bright flesh colour. The os was patulous, but the cervix appeared healthy above the growth.

On the 12th of November I threw a ligature of twisted dentists' silk, by means of Gooch's double canula, around the cervix uteri, as high up as I possibly could reach, being convinced that the more of the sound tissue I removed the better would be the chance of success. I experienced some difficulty in this manœuvre, in consequence of the obliquity of the uterus, the softening[a] of the ligature by the discharges, and the contraction of the vagina on the tumour, notwithstanding its size, the greater part of which came away whilst thus operating.

Almost immediately on the application of the ligature, the patient complained very much of pain in the uterus. Fearing subsequent inflammation, I prescribed a pill containing four grains each of hydrargyrum cum cretâ and Dover's powder, to be taken every third hour. In the evening it is reported that the pain in the uterus had not all abated, but there was no abdominal tenderness. It not being considered advisable to loosen the ligature if possible, she was ordered a draught containing half a drachm of ipecacuanha wine, two drachms of water of acetate of ammonia, and half a drachm of tincture of opium, in an ounce of water, and a cathartic draught of rhubarb and sulphate of potash in the morning.

13th. She did not sleep during the night; pain much abated, but a great amount of tenderness over the uterus, with quick pulse; the ligature was tightened, and the vagina was syringed with warm water. The abdomen was ordered to be frequently fomented, and a pill containing half a grain of calomel, a grain

[a] In two cases since operated on I have used a ligature made of whip-cord, which is not thus affected. The same ligature was employed in both cases, and it can be used again if required.

of blue pill, and a fourth of a grain of opium, to be taken every second hour, with, if requisite, a draught containing forty drops of laudanum at bed-time.

14th. She slept well during the night; pain and all tenderness completely removed; she complained much of her mouth being sore: all medicines to be omitted. The ligature on being tightened gave way. The case not being urgent, all further interference, with the exception of syringing out the vagina, was deferred until next visit.

15th. She passed a very restless and sleepless night; tongue foul, pulse quick, and in fact a high state of irritative fever present. On making a vaginal examination I discovered that the cervix uteri had been partly cut into by the ligature, and that the tumour was in a state approaching to gangrene, with a dirty fetid discharge issuing from the vagina, to which state of matters I attributed the fever. Under these circumstances, fearing that phlebitis might ensue, I introduced Weiss' trivalve speculum, drew down the os uteri by means of a double vulsellum, and excised the cervix with a blunt-pointed scissors curved on the flat, Messrs. Smyly and G. H. Porter kindly assisting. No hemorrhage, ever so trifling, followed the operation. I then syringed out the vagina, and passed the uterine sound, which I did each day during her stay in hospital. I used the actual cautery on two occasions subsequently to the removal of the cervix, with the twofold view of destroying any portion of the disease that might possibly have been left behind, and of expediting cicatrization.

From the day of the removal of the cervix, the vaginal discharges ceased: she left the hospital, the wound being perfectly healed, on the 22nd of November, which was the eleventh day from the application of the ligature, and the eighth day from the amputation.

On the 21st of December this female was menstruating *without pain;* she had then become fat, had regained her natural healthy colour and spirits; the enlargement of the inguinal glands had disappeared; and she was in the enjoyment of better health than she had been for years.

Which of the following reputed predisposing causes to this disease, as "injury to the cervix during labour; local irritation occasioned by delivery or other excitement of the uterine organs; excessive cohabitation, syphilis, or early interruption to connubial intercourse," was at fault in this case, I am unable to say; but, as far as I can collect, neither of the last two-named had its share.

Cicatrization of the wound, consequent upon operation, took place much earlier in this than in any other case which I find recorded,—a fact I am much inclined to attribute to the use of the actual cautery. Here the parts were perfectly healed on the eighth day after the separation of the cervix, whereas I find that in others the process was not completed for a period varying from twenty days to six months. Fabre, in the "Bibliotheque du Médecin-Praticien," vol. i., in speaking on this subject, says:—"Si après 15 jours ou 3 semaines il n'y a pas d'accidents, la plaie marche vers la cicatrisation, qu'on favorise souvent avec quelques légères applications de nitrate de mercure,—six semaines et six mois seraient, d'après M. Lisfranc, les limites extrêmes du temps nécessaire à la guerison."

On the removal of the cervix in this case, I passed the uterine sound each day until the healing process was completed, and for some time afterwards: a practice I have been in the habit of adopting for some years past in cases where disease of the cervical canal, or extensive ulceration of the os uteri, requiring the use of powerful caustics, was present, as in such there is a great tendency in this cavity to narrow or close up,—in the one producing dysmenorrhœa, and in the other amenorrhœa. Very recently I had under my care cases illustrative of this position, the subjects of which were cured by the occasional passage of the sound, &c.

Dr. Lever, in his very practical work on Diseases of the Uterus, says:—"In one case where the os uteri was removed, the patient suffered very considerably at the menstrual periods, and this seemed to depend upon the very small aperture to the womb caused by the cicatrization of the divided structures." Boivin and Dugès also mention a case of dysmenorrhœa consequent upon the amputation of the cervix uteri. And Lisfranc, in speaking of this occurrence, says:—"l'introduction d'un stylet pratiquée de temps en temps dans l'orifice inferieur de l'uterus, empêcherait l'obliteration; si elle existait, pouvrait, ou y remédier avec le trocart ou le bistouri, l'experiènce en decidera."

Mrs. ——, the subject of this communication, suffered very much from a symptom to which no author, that I am aware, has even alluded, and yet so frequently have I observed it in conjunction with inflammatory and ulcerative affections of the womb, that I look upon it as pathognomonic, so much so, that, were every other symptom of disease absent, or apparently so, in a case where it was present, I would pronounce some faulty condition of this viscus to exist, as I have on more than one occasion done. In many cases it seems to mask the other symp-

toms, which become developed as it gives way, or are, as it were, mapped out under treatment. I allude to a species of giddiness, so well described by the unfortunate sufferers as a pirouetting and tendency to fall, accompanied by a sense of extreme terror. In some cases there is headach, but it is by no means a necessary concomitant. Patients generally suffer most from this symptom whilst walking or standing, but, in some cases, it is equally severe in the sitting or recumbent posture. I remember, some years since, seeing a lady throw herself on the floor of her drawing-room, and try to hold on by the ground like an inebriated person.

I think I am justified in saying, that this case bears against Sir C. M. Clarke's idea of the advantage derivable from the use of astringents in cauliflower excrescence. He declares "that they strengthen, brace, and contract the vagina, that it may act like a bandage on the tumour, and thus limit its growth" for here we had a very much contracted vagina, yet a very large amount of disease. Boivin and Dugès think that "if astringents present any real advantage, it is, however, by their action upon the growth itself, and upon the vessels with which it is traversed."

There was, as already remarked, a vast amount of constitutional disturbance produced by the application of the ligature in the case now under consideration; whereas, in a few of the recorded cases no such effect followed upon its use, a circumstance which, I am strongly inclined to think, can be satisfactorily accounted for by supposing it to be attributable to the fact of the ligature in some having passed through the diseased[a] mass, and in others having included but a small portion of the os uteri; whereas in this female all the cervix had been removed. The absence of amenorrhea or dysmenorrhea after operation can be similarly accounted for.

Perhaps I may be permitted to infer from the above fact, that a more favourable prognosis as to the success of our operation may be given, where pain is experienced, and constitutional disturbance sets in on the application of the ligature, as we may take such as negative proofs of its having been thrown around a healthy portion of the cervix; for it is allowed by authors, that in all cases the diseased part is insensible to pressure.

From what has been already stated I would draw the following deductions.

[a] In the case of the domestic servant before alluded to, the ligature passed through the diseased cervix, and no constitutional disturbance took place.

1. That cancerous affections, when confined to the cervix uteri, are in many cases successfully treated by removal.

2. That the only chance of preventing a return of the disease is to remove in a healthy part the cervix from which it grows.

3. That the best and most expeditious operation is amputation of the cervix in a part free from disease.

4. That as hemorrhage is very likely to follow such an operation, a ligature ought to be thrown around the cervix, as high as possible, for twenty-four or thirty-six hours before amputation.

5. That cauliflower excrescence is a disease to which this treatment is very applicable; as it rarely if ever extends beyond the neck of the uterus, and as it is one of the forms of cancer which is least liable to return after the excision of the parts.

6. That amputation of the cervix, in hypertrophy and such like affections of this part, which are curable by simpler means, is not justifiable.

7. That extreme prostration alone, or enlarged superficial inguinal glands, ought not to be a bar to operation.

8. That as inflammation in many forms is likely to follow this operation, an appropriate preventive treatment ought to be adopted.

9. That the use of the actual cautery expedites cicatrization after the removal of the cervix.

10. That as amenorrhœa and dysmenorrhœa are likely to follow on extensive ulceration of the os and cervix uteri, and also when these parts have been removed, the uterine sound ought to be passed from time to time during cicatrization, and for some time afterwards.

11. That with a view to correct the cancerous diathesis, the patient might be put under a course of treatment for some time previous to, and subsequent on, the operation.

12. That a particular form of vertigo is a frequent symptom, and an important diagnostic of uterine disease.

13. That as females suffering from uterine affections are very prone to intercurrent affections, which sometimes prove fatal, every means should be adopted to prevent their occurrence.

14. That in all cases of suspicious vaginal discharge, manual examination *at least* ought to be employed.

Art. X.—*Account of a Surgical and Invalid Bed*[a]. Invented by Andrew Knight Young, Esq., Surgeon to the Monaghan Infirmary.

As the bed, of which this is in some degree to form a notice, has stood the test of years' experience, and has excited some attention, I think it advisable to give a description of its uses and capabilities, which, with the aid of engravings, will probably have the effect of directing the attention of the profession more generally to it; and I would address myself especially to those, who have the charge of public institutions in country places, where they cannot always command the assistance of persons qualified to take upon them the care of those suffering under severe accidents, or who have undergone serious surgical operations.

Having had many troublesome cases under my care in the year 1847–48, in the Infirmary of the county of Monaghan, and more than usual difficulties to contend with, I asked myself was it not possible that some means could be invented by which a variety of changes might be made in the position of the patients confined to bed, and which changes could be more extensively and conveniently produced than those by the ordinary and cumbrous bed-chair. I also was anxious, if possible, that each bed should form within itself a surgical apparatus capable of extended application, so that wherever a bed was found for an accident, *there* was also the chief machinery by which fractures could be treated. Upon turning the matter over in my mind for a little time, I made a sketch of a plan by which I hoped that not only the positions of the head and shoulders could be readily changed, but those of the lower extremities with the body; also of the legs and thighs respectively to one another. Accordingly, under my directions, I had first a tin model prepared from my sketch by a brass-founder in this town; and, ultimately, by the permission of the Governors of the Infirmary, this artist, Mr. M'Coy, made an iron bedstead on the model thus prepared. On putting the first bed into use I found, as might have been expected, that many alterations suggested themselves; and also, that, with a little care, an apparatus of very extensive use to the invalid might be perfected without great trouble. After careful consideration, and much patience on the part of Mr. M'Coy, I at length obtained a bedstead which, from experience since then, I have every reason to congratulate myself on; for I have found it not only

[a] The Bed was shown at the Great Industrial Exhibition of Dublin, in 1853.

of incalculable benefit to those suffering from either disease, accident, or operation, but a means of saving a vast loss of time and trouble to the attendants. To obtain the first of these objects, even in any degree, is next to the saving of life, the chief aim and endeavour of the surgeon; and, if he can simultaneously save the time and trouble of the attendants, I need hardly say of how much importance this is where the nursing of sixty patients, in a general medical and surgical hospital, devolves upon the almost unaided powers of two women, as is the case in the Infirmary under my charge. To have accomplished both these ends, then, is a cause of much pleasure to me; for not only can the patient's position be changed as often as he requires, and more perfectly to his satisfaction than by the aid of the most careful bolstering, but it is done immediately, without any inconvenience to himself, and with so little trouble to the attendant, that her time is considerably economized, and, consequently, much more attention can be paid (when she has several bad cases under her care) to the many other duties devolving on her. In the bed made by Messrs. Kennan, of Fishamble-street, Dublin, for the Great Exhibition of 1853, I have introduced some improvements in the machinery, by which the positions of the lower extremities are to be altered, although there is not anything in the principle different from what I have been using for years past. The change I allude to is now caused by the gradual operation of the screw instead of the rack, which latter I observed was too abrupt in some instances where the patient was suffering under an irritable state of the nervous system. This is the only change of importance I have made, and will be more particularly alluded to when describing those compartments of the bed it operates on.

A glance at the engravings will show that the bed, which is of iron, is outwardly of the plainest and most ordinary kind. The movable parts are contained within this outward frame. For the purpose of description I have divided these inner and movable parts into *six compartments*,—the numbers commencing at the head-board, which is called No. 1, and going progressively towards the foot of the bed to that part of the apparatus which supports and includes the foot-pieces, and which, taken collectively, is called *compartment* No. 6.

To begin, then, with *compartment* No. 1, a reference to the engraving (Fig. 1) will show that this compartment forms the head-board of the bed; it is hinged to *compartment* No. 2. When No. 2 is horizontal, the 1st *compartment* stands at right angles to it, at this time acting as the head-board. And when No. 2 is elevated, No. 1 is made to change to the horizontal,

Fig. 1.

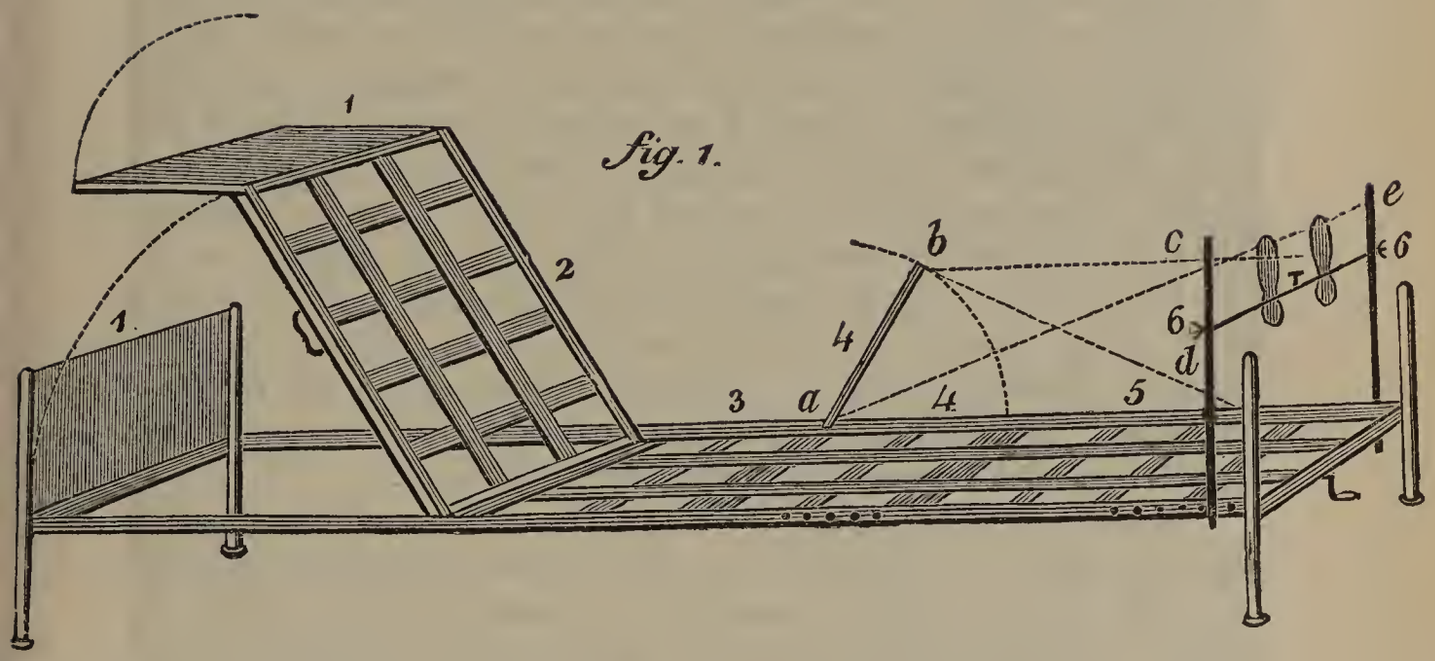
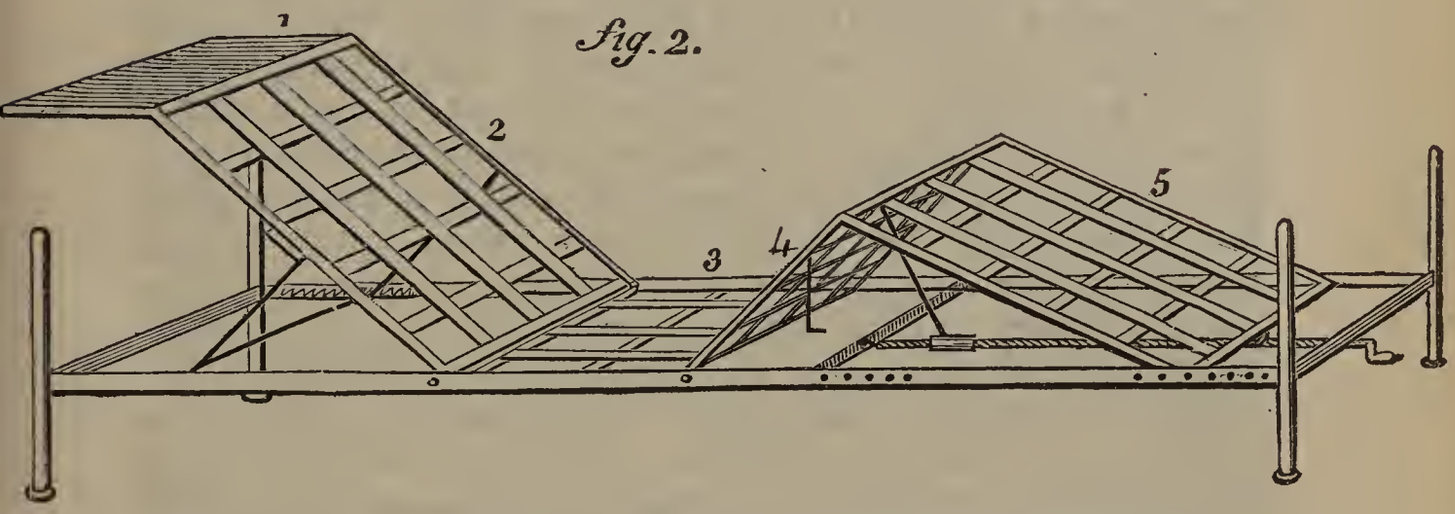


Fig. 2.



Surgical and Invalid Bed, invented by Andrew Knight Young, Esq., Monaghan. Manufactured by Messrs. Kennan and Sons, Fishamble-street, Dublin.

and by a simple contrivance to maintain this position: and thus support the pillows, which otherwise become inconvenient by sliding behind the back and shoulders of the invalid.

The 2nd *compartment* supports the shoulders and body; it is furnished with a handle on each side. Should the invalid express a desire to be raised, the attendant has only to take hold of one of the handles and raise this compartment to the elevation required; when this is attained, there is no necessity for doing anything to keep it so,—the simple contrivance of a frame falling into a rack, as may be seen in Fig. 2, secures it in this situation; and the position is capable of any alteration, from the horizontal to an angle of 90°. The alteration towards the horizontal is just as easily accomplished, by merely taking hold of the frame which falls into the rack, while the other hand seizes the handle, by means of which, when the frame is liberated, the upper portion of the body may be gradually lowered either entirely or to the angle required.

It will now be easily understood how immediately every elevation can be produced at will and varied without trouble, as often as the real or imaginary comfort of the invalid requires. I need hardly point out to those who are frequent visitors to or attendants on the sick what an advantage this alone presents; and I need not call to their remembrance how often the most careful propping on the bed-chair with pillows, placed by the hands of affection and solicitude, fails to produce that exact degree of satisfaction which the sufferer so plaintively demands. It is true that in some cases such ideal satisfaction can never be obtained: but I have very often seen the great solicitude on this point tranquilized by the patient finding that at a moment he could be raised up, or let down, just as his sick whim dictated, without the least degree of exertion on his own part, and without almost any trouble to the attendant. Should an invalid who has been in the sitting posture become suddenly weak or faint, what hurry and confusion we often see the attendants thrown into to pull away the pillows or remove the bed-chair, and the delay and embarrassment they create by thwarting each other's endeavours to produce that effect they are all so anxious for. With this bed there is neither confusion nor delay; the invalid's position can be instantly and without personal annoyance changed as required, by a single and unaided attendant,—a circumstance in itself of no inconsiderable importance.

I will point out another case in which I have found this power of altering the position of the greatest benefit. Not very long since I had a man in the Infirmary who, from walking

out of a drawing-room window into an area, suffered fracture of the femur, and became maniacal in the course of treatment. It was found necessary to restrain him by means of the-laced vest, which was fastened by the neck and arms in the usual way to the bed-frame; whilst the limb had adapted to it the double-inclined plane formed by the lower compartments of the Invalid Bed, as will be hereafter described. The great advantage found in this case was, that by making the neck and wrist straps fast to the *inner frame*, the unhappy man's position from the horizontal to the erect position could be altered at his whim, without in the least degree permitting to him a greater degree of freedom; the tranquilizing effect of this on the poor sufferer was occasionally wonderful.

The 3rd *compartment* is stationary, and supports the buttocks of the patient. It has often been suggested to me that an improvement should be made here, so that the dejections might pass through an aperture in the mattrass, and be received into a pan beneath the bed-frame. I had considered all this previously, and rejected it for the following reason: I never have attended, for even one week, in a room where such a contrivance was in use, that I did not find the atmosphere therein most unhealthy, owing to the, I believe, unavoidable soiling of the mattrass at the aperture, over which I never yet have known a weak patient so exactly placed as to prevent this occurrence. I need not say anything of the difficulty of removing or replacing the plug for this aperture, or allude to the intervening sheet, &c. &c. My first objection I have so constantly experienced, that I look upon the contrivance as one most injurious to the healthy state of the sick-room. On the pan being required, I have not had complaints of any difficulty in its use on this invalid bed. By elevating the shoulders in the way above described, the patient can, by the aid of his arms, raise himself sufficiently; or, if too weak, the attendant passes the arm under the thighs or body (according to circumstances) whilst the pan is placed under the pelvis. I know that in cases where very terrible injury has been done to either one or both lower extremities, or where amputation was suffered, or where violent injury has been done to the trunk or upper extremities, and where there have followed excessive fever and constitutional disturbance, that I have not had any complaints of inconvenience arising from this cause, bordering on the vexations I have heard of where similar cases were treated in the ordinary beds, or those furnished with the aperture and plug. I have, therefore, as I said before, rejected this contrivance,

believing it not to be attended with the convenience stated, and knowing it to be a cause of impurity in the chamber.

Compartment 4 moves immediately below the permanently horizontal No. 3, and being hinged with No. 5, they are conjointly capable of very extensive and useful movements. These two compartments, 4 and 5, are, in the present *surgical and invalid bed*, acted upon by an endless screw, set in motion by a small winch-handle at the foot of the bed: No. 4 can, by its means, be passed from the horizontal plane through all the angles within the quadrant: and No. 5 necessarily follows this, whether to form a *double inclined plane* for the treatment of fractured femur; or the *ascending plane*, from the pelvis to the heel, for the treatment of the *fractured patella* or its ruptured ligament; or a *horizontal table*, for the treatment of different injuries, or for a change of position, which to the bedridden is of indescribable comfort. On reference to Fig. 1, one of the sides of No. 4, *a b*, is represented as being raised, and is shown to be the radius of the quadrant represented by the dotted curved line described through its free extremity. To any angle within these 90° No. 4 can be elevated, and there retained by means of the endless screw, which in Fig. 2 is shown to act under the bed-frame. Now, as the utility of the double inclined plane is familiar to every surgeon, I have no doubt that many have experienced the trouble and annoyance of adapting the ordinary apparatus for producing it to the beds in common use. In this bed I am describing, *the bed itself forms the double inclined plane*, thus doing away with all the extraneous, cumbrous apparatus, which is not always to be had in the vast majority of instances; and with the aid of *compartment* No. 6, meeting almost every case in which such an apparatus can be required. Of course the common pads, bandages, and side splints or plain laths, will be required to complete the arrangement, but these can be readily procured.

Now it will be carried in mind that No. 4 may be elevated to any pitch required, and that No. 5 will form any angle with it towards the frame of the bed, or will project in a direct line, whether No. 4 be lying flat, or whatever elevation *it* may be raised to. We thus in the first instance have formed between these two compartments a *double inclined plane*, as shown by *a*, *b*, *b*, *d*, in Fig. 1, and more plainly in Fig. 2, and this at will, to any angle required by the smoothest possible movement. I need not dwell upon the great advantage this will afford to the comfort of the patient, and the satisfaction of the surgeon. Those in the practice of the profession will easily appreciate it.

The *patella splint* is the second apparatus to which these compartments may be easily converted. As Nos. 4 and 5 are connected by a peculiar hinge, it is only necesssary that No. 4 should be raised to the pitch required, and then No. 5 elevated by the hand to form a direct line with No. 4, when it immediately becomes fixed in this continuous position and remains so. This being the case, if it is found necessary during the treatment of the fracture, for any purpose (the relief, for instance, which a slight change of position will afford) to elevate or depress the limb, the only thing to be done is to act on the screw by means of the handle at the bed-foot, and the required change is accomplished by the easiest and most stealthy of all movements. I have by means of this treated rupture of the ligamentum patellæ, caused by playing at "leap frog," and produced so much benefit to the patient that afterwards, although an active and powerful man, he suffered scarcely any inconvenience from this very serious accident.

The *horizontal plane* is the next position capable of being produced by *compartments* 4 and 5 acting on one another. On referring to Fig. 2 it will be seen that a hook hangs from the *compartment* No. 4, and that in the outside frame, a little below this hook, and nearer to the foot of the bed, several holes are pierced. To produce *the horizontal plane*, elevate No. 4 to the pitch required by means of the screw, then project No. 5 horizontally from No. 4; by passing the beak of the depending hook into one of the holes pierced in the bed-side; this position is firmly retained, and cannot be altered without removing the hook from the hole in which it had been placed. The production of this simple movement, which, I confess, I intended merely for a change of posture to those who were weary and bedridden, has been of much more extensive benefit in practice than I originally supposed it would, and I cannot express how much aid I have experienced by its means in treating numerous fractures and injuries of the lower extremities. As to the comfort expressed by the weak and weary on occasionally having their limbs, without exertion on their part, raised up and let down, I shall not attempt a description, and I have the frequent satisfaction of finding it nearly as useful in the treatment of those who have the misfortune to be confined by serious accidents, as it is comforting to the sufferer prostrated by constitutional disease. The dotted line *b*, *c*, in Fig. 1, from the free extremity of compartment 4, indicates the horizontal plane thus formed at nearly its greatest elevation. The height of this plane can be reduced as low as

four inches off the level of the frame, and to any elevation between the extremes.

I have now to describe the foot-pieces, which, with their perpendicular and transverse supporters, screws, hinges, and *foot-pieces proper*, form the 6th *compartment*. It may be seen, on examining Fig. 1, that several holes are pierced in the outside frame of the bed, extending from the footpost upwards in the direction of the bed-head; the opposite side of the frame is symmetrically pierced: these holes are *tapped;* a perpendicular rod furnished near its base with a joint may be fastened to the bed-frame by a male screw passing through this rod to one of the holes in the frame; the same may be exactly done at the opposite side of the bed. These two perpendicular rods are connected to each other, if *necessary*, by a transverse divided branch, which is made to slide up and down on the others, and retained, where required, by small thumb-screws marked in the engraving. On this transverse branch one or two foot-pieces of wood are adapted, which by the simplest contrivance may be placed at any elevation from the horizontal frame, and set at any angle required; whenever they are adapted they are by the use of the thumb-screw firmly retained,—and the foot-pieces themselves may be set close to each other, or at any distance from one another, or singly, and at either side; or, as may be required where former lameness has existed, longer or shorter respectively towards each other, so as to meet the circumstances of each case.

The covering of the bedstead I make use of in my own house, where I have one furnished with brass posts and a top rail for curtains, is a mattress made with straw and the split brier, like the common beehive, and not much thicker; it is constructed in portions each the size of a compartment, and they are joined by the brier or cord to one another, so that they are connected as it were by hinges, and follow the movements of the bed. This mattress has laid over it another of the very best curled hair, well stuffed and tufted, and from four to six inches thick,—less thick of course over compartments 4 and 5 than over 2 and 3, which support the head, shoulders, and body; it is made in one piece, and very readily adapts itself to the different alterations of the bed-frame. The beds we use in the Infirmary, with two exceptions, are of *alva marina*, a material which has not given the satisfaction we were led to expect, as it is generally damp when we receive it, and soon becomes sodden and so hard that it is much complained of from this cause until the patients become accustomed to it.

The use of curled hair, except in the two instances alluded to, we are precluded from using owing to its great expense; and the temptation its value holds out is such that we fear the unfair loss thereof would prove very considerable.

In conclusion, the aid I have experienced by the use of this bed, which any common attendant may become familiar with the management of in ten minutes, has been such through a considerable period of hospital practice, that I have felt myself bound to make the apparatus known to the public. I have not urged its adoption as strongly as I felt prompted to do, from the feeling that it is an invention of simple construction, so easy in its application, and so extended in its uses, that it only requires to be known to insure its adoption.

I shall merely add, that I have felt great satisfaction at the promptness, attention, and accuracy with which the Messrs. Kennan, of Fishamble-street, Dublin, have carried out all my suggestions in the construction of this bed, and that I have authorized them to make it on my plan.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Diseases of the Heart and the Aorta. By William Stokes, Regius Professor of Physic in the University of Dublin, &c., &c. Dublin: Hodges and Smith. 1854. 8vo, pp. 689.

In the course of the last thirty years the name of Dr. William Stokes has gained an extraordinary celebrity in connexion with the Irish Medical School. Of the many ardent cultivators of medical science, who have laboured in that interval to shed lustre on our native land, few have equalled, and certainly none surpassed, the author of the Treatise before us. Not that he has been a voluminous writer, but his reputation has sprung from the commanding fact, that originality of thought, vigour of reasoning, and utility in purpose, have invariably formed the combined characteristic of his memoirs.

By the readers of this Journal, in particular, these remarks will be deemed trite. At the same time, none can so fully appreciate the merits which they express. It was in this Journal that the progress of that clinical study, which he so zealously and indefatigably cultivated in the wards of the Meath Hospital, was from time to time promulgated to the world; and our readers can well remember the many interesting facts, which carefully studied cases, in the hands of his colleague—our late eminent and deservedly esteemed friend and contributor, Dr. Graves—and himself, elicited, and which formed the very soul of the former series of this periodical.

We shall be pardoned, then, if, in submitting a notice of this work to our readers, we lay ourselves open to the charge of being considered expositors rather than reviewers. We cannot but acknowledge some feeling of this kind to have passed through our minds when looking, for the first time, upon

these pages, which confessedly "seek to embody the results of clinical observations, continued, almost unremittingly, for upwards of a quarter of a century." Indeed, in the matter of influencing the opinion of the profession, as to the merits or otherwise of a work proceeding from the matured pen of an author whose name is a "household word" amongst us, the critic's occupation may be deemed void. This book will be read, and with avidity, by every practitioner who appreciates the rational and scientific treatment of disease, and this without reference, we may safely say, to the dictum of the reviewer.

Nevertheless it is our duty, and we feel it to be a pleasing one, to present such an analysis as may put our readers in possession of the new facts which the author has adduced upon the diseases of the heart and the aorta, the use he has made of what data have been already established, and the manner in which he has accomplished the work.

In the first place, let us understand what is the object our author held in view in publishing the work. It does not aim to supersede the valuable treatises by Hope, Latham, and others. It is not a work on the physical diagnosis of cardiac disease, expressly as such. Nor is it a complete treatise on this branch of pathology. But it is a book incomparably more valuable than a host of systematic volumes. It is a purely clinical monograph, which "attempts to convey to others the state of the author's mind, the conclusions which he thinks may be safely arrived at, and the doubts and difficulties which he has been unable to solve, or to remove." He has "made use of pathological anatomy, and the physical diagnosis, only so far as these subjects bear on the every-day practice of our profession." We are not, therefore, to expect the enunciation of *every* fact connected with cardiac pathology, diagnosis, or treatment. On the other hand, every important practical point, which involves broad principles of treatment, should naturally find a place in it.

We are induced, from a careful perusal of this work, to think that, while bearing the characteristic features of our author's well-known style and mental habitude, it is one of a class of books which are embodying more and more fully the genius of the present age in medical literature. Any one who has narrowly scanned the indications presented, of late years, in the progress of medical science, must have taken notice of the gradual but distinct development of an eclectic school. The era of pathological anatomy which marked the beginning of the present century is fading before the dawning light of a period which seems to have already embraced the prevailing

views of the medical world. We do not now look, as of old, to anatomy or physiology alone, to explain the course of medical phenomena. We have not now recourse to mathematical formulæ or metaphysical hypotheses to guide us in the management of disease. We do not now imagine that the operations of the economy are mainly of nervous or humoral origin; or, still less, that the human body is nothing but a collection of solid organs, each of which is the centre of diseased action. On the contrary, we discard all such partial views, and, relying on the sequence and coexistence in which Nature alone places her phenomena as irrefragable data, we aim at a position which we expect may be ultimately attained; from which the physician may discern the entire of the morbid process in all its relations, and lay down, of course within limits, an unerring line of treatment. We say, we believe that such is the tendency. We think we see, in the writings of the best clinical observers of the present day, the strongest evidence that they are guided in their apprehension of disease more by the sum total of deranged action, in any given case, than by any partial view of a single lesion, howsoever important.

Our author seems to acknowledge this growing change in medical opinion by a casual observation made in his Preface, when he refers to a tendency, still too prevalent in many schools, which would base the diagnosis of disease, in great part, if not entirely, on the consideration of purely physical signs to the exclusion of that important class of phenomena which, for want of a better name, we are obliged still to call "vital." And again, at page 342, he more pointedly enjoins the necessity for a higher exercise of mind, and a more comprehensive reflection, than that required for the observation and record of isolated facts in pathology:

"He must not only," he says, in truly eloquent language, "give due weight to the existence of separate phenomena, and to the results of combinations of diseases, but he must study conditions which are beyond the reach of the pathological anatomist, and learn to ignore the existence even of manifest organic alterations. While he bears in remembrance the ascertained facts supplied by modern investigation, he is to go beyond them, having an eye to the general rather than the particular, and to found his diagnosis, prognosis, and treatment on that broad basis which includes not alone the effects, but the causes and special modifications of disease. Thus only can the new medicine be advantageously combined with the old. Thus only can that kind of skill which is, as it were, the instinct of the thinking man, be produced—the true *mens medica*—enabling us to act rapidly and successfully in opinion and practice, unconscious, too, of any effort of memory or complicated reasoning

process. This is the great desideratum in medicine, when we are called on to deal with varying combinations of local diseases, and general morbid conditions. Accurate observation and accumulated experience are necessary for its attainment; and yet it is more accessible to some than to others. A few, indeed, seem incapable of acquiring it; and hence it is that, with a more limited experience, the mind of one man shows more brightly than that of another. In medicine we have to deal with ever-varying phenomena; the vital condition of organs cannot always be inferred from their physical state, nor the influences which act on the entire economy be explained by anatomy. Were it otherwise, medicine would be an easy pursuit, but no field for this exercise of mind, which is at once its difficulty and its glory."

In order to show still more clearly that the eclectic is really the cast of mind which the work before us indicates, we shall adduce a few more examples from many which pervade its pages. Speaking of Hope's treatment of pericarditis, he says:—"Without denying that in some cases such a course as is here indicated may be proper, we must not forget the effect which this advice may have on some of our brethren, whose minds are not sufficiently purged of the erroneous doctrines of inflammation, so long the opprobria of our schools of medicine and surgery." At page 86:—"In two cases especially,—namely, cerebritis and pericarditis,—we find the greatest timidity in practice with respect to the use of wine." And at page 90:—"No man is fit to treat general disease or local inflammation, especially its secondary forms, until he has conquered that fear of stimulants which a long course of erroneous teaching has instilled into his mind." At page 132, speaking of chronic diseases of the heart:—"Every practical man," he says, "knows that isolation is the exception, and complication the rule. Hence one reason why disease at the bedside so rarely corresponds with its description in books. Its combinations vary infinitely in their nature and number; and we often find, particularly in cardiac disease, that it is the more recent and least developed affection that produces the most prominent physical signs." At page 156:—"It is hardly possible to overstate the amount of mischief done in many cases of chronic heart affection by practice founded, not on experience, but on a false theory, which leads to the adoption of a general and local antiphlogistic treatment." "Above all things, we must avoid injuring the cause of practical medicine by laying down rules of treatment founded upon insufficient data."

The following passage, at page 609, is replete with the re-

sults of profound judgment and reflection. Speaking of the difficulty of tracing aneurism of the thoracic aorta, he says:—

"The error of declaring the absence of organic disease, in consequence of the want of physical signs, has led many of our brethren into disagreeable positions; and it must not be forgotten that in physical examinations negative results may furnish significant indications; indeed nothing should more awake our attention than the occurrence of important symptoms without there being signs to account for them. In the early stages of phthisis, the want of commensurate physical signs gives a fearful importance to the symptoms of cough, hemoptysis, pain, and irritative fever; in gangrene of the lung, the same deficiency of physical evidence indicates a case in which the fetid breath and putrid expectoration will probably be repeated, until at last an eschar is evident; and in suspected aneurism, the absence of all signs of tumour, especially when certain symptoms have been produced, will not justify our declaring the patient in an absolutely safe position."

These are sufficient proofs to show the guiding spirit of our author's mind; to show that he was disposed to look upon medical doctrine, when unsupported by the sure foundation of incontrovertible facts, with the greatest suspicion; and, in his practical appreciation of any given case, to be satisfied only with the evidence of its *entire* phenomena. Of the same school, the names of Graves, Marsh, Corrigan, Latham, and Todd, may be selected as familiar examples. But indeed it is almost invidious to particularize, when the majority of the leading lights of the present day inculcate the same liberal views.

Our readers may now understand the peculiar spirit which characterizes the volume before us,—a spirit which, when directed by experience, must always produce a valuable work. We shall therefore proceed to indicate the principal points discussed, in the order in which they are presented.

The First Chapter is occupied with the consideration of Pericarditis. Its forms, symptoms, and physical diagnosis, are fully given, and the modifications induced by co-existent disease and duration, together with the treatment. Among the complications we notice references to rheumatic fever, gout, phlebitis, typhus, dropsy, delirium tremens, and intermittents, besides the local diseases, pulmonic inflammation, hypertrophy, fatty degeneration, &c. In diagnosis allusion is made to the effect produced by increasing the pressure of the head on the ear-piece, which enables the observer to distinguish, in doubtful cases, the nature of the sounds,—a mode of proceeding which Dr. Sibson lately appropriated to himself. He

notices that, even in extensive pericarditic effusion, we may find friction-sounds at the base of the heart. The double jogging impulse laid down by Hope as a sign of pericardial adhesion he has never been able to verify, notwithstanding his numerous opportunities of observing pericarditic convalescents, in most of whom resolution by adhesion must have taken place. His experience on the Rheumatic complication gives us the conclusion, that the affection of the heart is more closely related to the rheumatic fever than to the inflammation of the joints, with which some observations of Latham would seem to coincide. As regards symptoms, neither their existence nor sequence can be considered constant. Objection is taken to Dr. Mayne's symptom of epigastric tenderness, which may arise from other causes. And his clinical experience of the pulse establishes that no special condition of it can be described as belonging to any one form or stage of the affection; an increased action of the cervical vessels is a symptom hitherto unnoticed in connexion with pericarditis, but in two cases in which he has observed it there was valvular murmur besides; so that the particular form of carditis is not indicated by this single symptom. Two cases are mentioned in which dysphagia was noticed; but this is a rare symptom, and not peculiar to cardiac disease. The sudden destruction of the eye, as described by Corvisart, he considers is more than doubtful as being dependent on any cardiac affection, for it it is also met with in phlebitic and other typhoid inflammations. Two cases are cited from Dr. Mayne's practice, and one from Dr. M'Dowel, in which friction-sounds were wholly absent. It is probable, however, that one at least of these had presented them in an early stage. In the differential diagnosis between endocardial and pericardial sounds, in addition to the well-known sign, viz., the change of situation of the former, the modification produced by the action of respiration is referred to as one of considerable value. Several instances are given of the diagnosis of pericarditis from physical signs alone. Among these is detailed the first in which our author ventured to make the the experiment. It occurred in 1830. And another is given as the first in which the positive diagnosis of an effusion of lymph on the surface of the pericardium was verified by dissection. In this case the heart was dislocated by an empyema, which, in the absence of all cardiac symptoms, might readily have engrossed the physician's attention, while the diagnosis was founded on the sudden appearance of fremitus, and a sound similar to the *bruit de rape*, in a chronic case, which, two days previously, presented no such signs. The latency of the peri-

carditis in these cases is to be explained by referring to the general law, that the pre-existence of an important local or general disease seems to act in preventing the development of symptoms in the new effects which may be superadded. Most important remarks as to the management of a case of pericarditis are given in the sequel of this chapter. The danger of carrying the antiphlogistic treatment too far is forcibly shown:

"In such cases the boldness of treatment often betrays the timidity of the practitioner: he is terrified at discovering the disease, and his mind is more occupied with its name, its nature, or actual condition. In this way great mischief is done, for the debility thus produced disposes the disease to change from the dry and comparatively innocuous form to an unhealthy inflammation, attended with liquid effusion."

Besides, it must be remembered that although blood-letting is better borne in pericarditis, in the early stage, than in pleurisy, yet the period when such treatment ceases to be advantageous is much shorter in the former than in the latter. And, further, that should such treatment be persisted in, paralysis of the heart may suddenly occur, and be fatal. This point is fully insisted on, and the imperative necessity of stimulants, at a certain period of the disease, explained.

"The following circumstances," he says, "should lead us to diagnosticate a weakened condition of the organ in pericarditis:—

"1. The feebleness, intermission, and irregularity of the pulse, especially when these characters have not existed from the commencement of the attack, and again when the feebleness of the pulse coincides with a diminution or loss of impulse.

"2. The appearance of turgescence of the jugular veins, with or without pulsation.

"3. The progressive change in the character of the sounds of the heart, more especially if it is the first sound that becomes feeble or extinct. This is important, for, if the second sound remains, we may conclude that the want of the first is owing to debility of the ventricles, rather than to any intervening liquid effusion.

"4. The evidences of a weakened circulation, drawn from the symptoms in general. Among these we enumerate pallor, coldness of the surface, œdema of the extremities, and the tendency to faint upon exertion, or even in a state of repose."

It is, therefore, necessary to examine the heart stethoscopically several times within the twenty-four hours, to observe the moment when weakened action commences. Prior to this he recommends relays of leeches, beginning with twenty or thirty, and gradually reducing the number on each application; and speedy mercurialization, by Graves' scruple doses of

calomel, once or twice daily. In the treatment of rheumatic pericarditis, if the disease be early discovered, the application of leeches may be alone necessary. Indeed, our author has seldom used even mercury in this complication, where the symptoms were mild or wanting and the pulse regular. In the early detection of this complication, notice is taken of the sudden appearance, and the previous and continued existence, of increased action in the heart; or, indeed, of any abnormal or unusual condition of that organ as quite sufficient to lead the practitioner to anticipate the lesion, though no murmur be heard, and act accordingly.

In an appendix, credit is given to Dr. Barlow and Dr. Chevers for adopting the author's views in reference to the production of atrophy of the heart by obliteration of the pericardium. In this section forty-seven illustrative cases are given, either succinctly or in a detailed form, and the opinions, views, and facts, upon certain points, of twenty-two authors.

The Second Chapter treats of valvular disease. The author here takes exception to the scholastic term "endocarditis," which sprung from the physiological school of Broussais, and which in the minds of many still calls up the idea of a pure inflammation. He is disposed to consider, for practical accuracy, chronic valvular disease as an "affection *sui generis*, into the treatment of which the question of existing inflammation does not necessarily enter." And he aptly remarks, that, so far from continuing to view a given case, even where the origin has been inflammatory, as one of chronic endocarditis, experience teaches us that "in many of such instances a tonic and stimulating treatment will be attended with much happier results than can be obtained by the antiphlogistic system."

It has often been asked, but never satisfactorily answered, —why it is that the valves are more prone to inflammation, and also to cartilaginous, osseous, and other transformations, than the membrane lining the cavities? Dr. Stokes takes up this question, but is content with throwing out suggestions rather than attempting a solution. Looking at the great frequency of the rheumatic origin of valvular disease, he asks— "Is this greater liability in any degree connected with the relation of the valves to the tendinous filaments of the papillary muscles, which may be supposed to be more implicated than the other internal structures of the heart?"

The prevailing opinion—that endocarditis is more frequently an isolated disease than pericarditis, which originated with Hope—is objected to by the author, whose large experience gives a very different conclusion. He endeavours to

account for the former view, by observing that pericarditis is frequent, in association with organic valvular murmur, in instances which are often set down as examples of endocarditis alone. Accordingly, he is inclined to consider the following as the order of frequency:—1st. Acute pericarditis, with endocarditis. 2. Simple pericarditis. 3. Simple endocarditis. As to the constancy of valvular murmur in endocarditis, he mentions the conditions in which the sound may be absent.

We have here a few paragraphs upon the causes of the cardiac sounds, in which a strong argument in favour of Williams' view is alluded to—"This at least is certain, that where the muscular contractility of the heart is impaired, it is the *first* sound that suffers most diminution;" at the same time it must be remembered that the auriculo-ventricular valves may, under such circumstances, produce less sound, should their closure be attended with any.

Speaking of the difficulties of the diagnosis of valvular disease, which the varying opinions of medical writers have by no means tended to lessen, the author has looked merely to those grand points which have been undoubtedly established; and has thus rendered what is known more simple and practically applicable.

"It too often happens," he truly says, "when the existence of a valvular disease is determined, that great labour is expended in ascertaining the exact seat and nature of the affection. Long and careful examinations are made, to determine whether the disease exists at the right or left side of the heart; whether it be a lesion of the mitral, tricuspid, or the semilunar valves; a contraction or dilatation; an ossification; a permanent patency, or warty excrescence. Now, though in some, we might say in many cases, these questions may be resolved with considerable accuracy, it is also true that in a large number their determination is of a comparatively trifling importance; and the two great practical points to be attended to are, first, whether the murmurs really proceed from an organic cause, and next, what is the vital and physical condition of the muscular portions of the heart; for it is upon these points that prognosis and treatment must entirely depend."

And again,—

"Another source of the difficulties with which this subject is surrounded is, that rules of diagnosis are in many cases founded on the supposition of the isolation of disease; but every practical man knows that in chronic diseases of the heart isolation is the exception, and complication the rule. Hence, one reason why disease at the bed-side so rarely corresponds with its description in books. Its combinations vary infinitely in their nature and number; and we

often find, particularly in cardiac disease, that it is the more recent and least developed affection that produces the most prominent physical signs. Hence, in many cases, while we recognise a particular disease, we are unable to say whether another and even more important affection coexists."

Not that he undervalues the differential diagnosis of endocardial disease, especially as regards the prognosis; but, confirming the observation made by Laennec, "that valvular diseases had but little influence on health when the muscular condition of the heart remained sound," he thus simply lays down the broad principle of action which the case demands:—

"The practical physician, having satisfied himself that a valvular disease exists, will not devote too much time in ascertaining its exact nature; but he will examine into the vital and mechanical state of the heart's cavities. He will ascertain the amount of vigour of the heart, whether its force is above or below the natural standard; whether it is liable to excitement from slight causes; and whether irregularity of action or the opposite is its ordinary state. He will endeavour to determine the duration of the disease and its origin, and examine how far the brain, lungs, or liver, have suffered from the mechanical or vital effects of diseases of the heart. Thus he will obtain some rule of treatment, and as the two most common diseases of the orifices, viz., permanent patency of the aortic and mitral valves, when occurring in an isolated form, are not difficult to distinguish, he will, so far as treatment and prognosis are concerned, be able to give to the patient all the advantages which the present state of medicine can afford."

The following forms of valvular disease, he considers, may be generally diagnosed with certainty, and, what is of more value, with practical utility:—

"1. Uncomplicated mitral disease.
"2. Corrigan's disease of the aortic valves.
"3. Disease of these valves, without permanent patency.
"4. Extreme ossific disease of the aortic orifice."

There are, doubtless, many stethoscopists who would confidently declare, that a much longer catalogue might be fairly considered as accessible to the accomplished diagnostician; and, perhaps, were occasional exceptions allowed to constitute a rule, the list might be much extended; but, unfortunately, every clinical observer must admit, with Dr. Stokes, that many a time when it is asked, can we say whether the disease of the mitral valve is a narrowing or a dilatation, an ossification, or a merely cartilaginous thickening,—we must answer in the nega-

tive; and, if we are asked further, is the disease confined to a single valve, we can in many cases give but a doubtful reply.

In connexion with this the author dwells with much force and perspicuity upon the importance of an observation due to Laennec,—an observation which presents a clue to proper treatment under the circumstances, otherwise difficult of solution,—viz., that valvular disease is often only discoverable by physical examination, and that its physical signs may be only developed after a considerable period has elapsed. Thus may the manifestation of an extremely slow and long-existing affection be suddenly presented to the practitioner, who may very readily commit the important error of considering the really ancient disease as one of recent origin.

The following paragraph places this point in a novel and striking point of view:—

"The recent development of the signs of a chronic, long-pre-existing disease is a circumstance which should be known to all who are concerned in the medical examinations for life insurance. Thus, it may happen, a life is passed as insurable after a careful examination. The insurance is effected, and yet in a short time the individual exhibits all those signs of morbus cordis which are supposed to indicate chronic disease. He may die of this disease within a few months after the completion of the insurance, and the payment of the sum insured be then contested, on the ground that the disease was overlooked. I have known all the signs and symptoms of permanent patency of the aortic valves to occur within a few months after the effectuation of a large insurance, and yet at the period of the medical examination, which was made by one of the best observers in this or any other country, no sign of disease of the heart existed. In the same way I have known the signs of chronic mitral disease become most strongly developed in the course of a few days. These facts are of practical importance, for in the case of a judicial trial, on the ground of the incompetency or neglect of the medical examiner, many professional witnesses would incline to the opinion that the affection had been overlooked rather than that it had become developed in so short a time after the examination. They would be influenced by the opinion that the development of disease and of its symptoms and signs are concurrent, a doctrine which we have seen to be untenable in acute, and, of course, far more so in chronic disease."

Several well drawn-up cases are given as illustrations of the prolonged existence of cardiac disease, and of its sudden development, by the disturbing influence of intercurrent irritation upon the heart's action.

The morbid anatomy of the valves gives rise to a practical

discussion of great importance. Admitting that the morbid changes commonly observed may be due originally to inflammation, it does not follow that the inflammatory condition shall persist; on the contrary, the author is persuaded that, after a time, these alterations "continue under the influence of processes very different from that of inflammation." The clinical history of cardiac cases puts it indeed beyond doubt, that in many cases a time does arrive when "the diseased action is really arrested, and the lesion becomes stationary." The practical points, therefore, which these considerations will suggest to the attentive observer of a case of valvular disease will be, in the words of the author:—

"1. To determine whether there is much obstruction to the current of blood. 2. Whether the permanent action of the heart is augmented or depressed. 3. Whether actual enlargement of the cavities of the organ has taken place. 4. Whether the action of the heart is regular or the contrary. 5. To ascertain as nearly as possible the duration of the disease, for it is on these points that his treatment must turn, and his prognosis to a great degree be founded."

At page 163 it is stated that "diseases of the valves of the pulmonary artery and of the tricuspid valves are rare, as compared with the analogous affections of the left side of the heart. So great is this difference in frequency, that in practical medicine we may confine ourselves to the diseases of the mitral and the aortic valves." So satisfied is Dr. Stokes of the correctness of this conclusion, that he throws a doubt upon the observations of Hope and Walshe as regards the diagnosis of patency of the pulmonary valves—and indeed seems to consider that we need not concern ourselves much with the means of discovering the lesion. No reference is here made to the observation of Dr. Blakiston, of Birmingham, upon tricuspid regurgitation. This writer observes, contrary to the generally received opinion, that these valves are as liable to disease as the others; but he adds, "the disease in the mitral orifice is generally palpable, while that of the tricuspid valves may very often escape the eye of a superficial observer; and yet the shortening of the cords of the latter, so easily overlooked, would probably have a much more serious effect on the circulation than an obvious thickening and narrowing of the mitral orifice or a deposition of vegetations on its valves." This lesion accompanies dilatation, and is, he believes, the main cause of general obstruction, in opposition to the views of Hope and Andral. Without going the length of a complete concurrence in the

opinion of Dr. Blakiston, we are inclined to believe that the lesion mentioned is much more common than what Dr. Stokes is disposed to admit; and indeed, when speaking of dilatation of the right cavities and venous pulsation, he does allude to a coexistent enlargement of the tricuspid orifice.

An important section in this chapter is occupied with the symptoms and the physical signs of mitral disease. With respect to the former, the author considers none *proper* to the simple disease; while, in some cases, all may be absent. The cardiac pain, too, which systematic writers always mention, he is disposed to consider to be due rather to parietal alterations than valvular disease, and hence it is frequently absent; and, with regard to the physical signs, an important caution is mentioned, which, as coming from so accomplished a stethoscopist, should possess much weight:—

"We read," he says, "that a murmur with the first sound, under certain circumstances, indicates lesion of the mitral valves. And again, that a murmur with the second sound has this or that value. All this may be very true, but is it always easy to determine which of the sounds is the first, and which the second? Every candid observer must answer this question in the negative. In certain cases of weakened hearts acting rapidly and irregularly, it is often scarcely possible to determine the point. Again, even where the pulsations of the heart are not much increased in rapidity, it sometimes, when a loud murmur exists, becomes difficult to say with which sound the murmur is associated. The murmur may mask not only the sound with which it is properly synchronous, but also that with which it has no connexion; so that in some cases even of regularly acting hearts, with a distinct systolic impulse, and the back stroke of the second sound, nothing is to be heard but one loud murmur."

And again:—

"To the inexperienced, the detailed descriptions of such phenomena as the intensification of the sounds of the pulmonary valves, of constrictive murmurs as distinguished from non-constrictive, of associations of different murmurs at the opposite sides of the heart; of pre-systolic and post-systolic, pre-diastolic and post-diastolic murmurs, act injuriously; first, by conveying the idea that the separate existence of these phenomena is certain, and that their diagnostic value is established; and secondly, by diverting attention from the great object, which—it cannot be too often repeated—is to ascertain if the murmur proceeds from an organic cause; and again, to determine the vital and physical state of the cavities of the heart."

And upon the diagnostic question, when two valves are

supposed to be diseased, the following valuable reflection is made:—

"The experience of each succeeding day devoted to the study of diseases of the heart will make us less and less confident in pronouncing as to the absence of disease in any one orifice, although no physical sign of such a lesion exist, if there be manifest disease in another, or again, if there be symptoms of an organic affection of the heart."

The researches of Dr. Adams, to whom Dr. Stokes pays a high tribute, on mitral contraction are endorsed *in extenso*. One remarkable symptom, pulsation of the jugular veins, which Lancisi deemed indicative of dilatation of the right ventricle, gives occasion to the author to consider the views of Hunter, Mr. J. W. King, and Dr. Benson. While admitting in certain cases a venous pulsation, propagated solely from the arteries, it appears certain to our author that the venous pulse is more frequently the result of regurgitation from the right ventricle.

In reference to the disease of the aortic valves, the elaborate and accurate observations of Dr. Corrigan are largely referred to; and a point of treatment of the greatest importance, to which he refers, is forcibly insisted on.

"A diminished vital energy in this disease is shown, not only, as Dr. Corrigan has remarked, in the want of proportion between the impulse of the heart and the amount of hypertrophy of the left ventricle,—as well as in the injury done by an antiphlogistic treatment,—but also in the character of the local inflammations of other organs than the heart, to which the patients are liable. I have generally found that such inflammations were of a low kind; that they resisted ordinary treatment; that when, for example, pneumonia set in, which is not uncommon, it had a spreading, somewhat erysipelatous character, resisting local treatment, and not benefited by tartar emetic or mercury, especially the first. It is a common error for practitioners, when called to a case of acute bronchitis or pneumonia supervening on this condition of the heart, to overlook this peculiarity of constitution, and they are too often surprised at the rapid sinking of the patient, who, but a few days before, appeared to be in a safe position."

In connexion with this disease, its simulation of aneurism —also noticed by Dr. Corrigan—is fully considered, and its importance distinctly shown. Dr. Stokes has known this disease to be mistaken for aneurism of the abdominal as well as the thoracic aorta. The means of diagnosis between these resembling diseases are succinctly detailed at the conclusion of this chapter. The views of Forget upon the law of retro-dilata-

tion, and those of Skoda upon the mechanism of the cardiac sounds, are given at great length. In the former case, the opinion that the law referred to furnishes important diagnostic marks, cannot be subscribed to in consequence of its repeated failure, and, at best, yields but a corroborative evidence, which was previously established by Drs. Adams and Corrigan.

The researches of Skoda on auscultation are no longer novel: but we may remark that the translation of them, for which the author states that he is indebted to Dr. W. D. Moore of this city, exhibits an admirable appreciation of Skoda's difficult style.

The morbid anatomy of myocarditis is confessedly meagre. Of this lesion, independent of inflammation of the serous membranes, little or nothing, according to our author, is known. The fact of paralysis of the muscular fibre preceding its disorganization, is noticed as a reason for the limited knowledge we possess. Hasse's view is mentioned, which makes a coincidence of endo- peri- and myo-carditis, a more common form than isolation of the last. Of the earlier stages, represented by injection of the cellular structures, serous and sero-sanguinolent infiltration, lardaceous transformation, and diminished consistence, we know little save from the writings of Hasse and Gluge; while the more advanced forms, as interstitial suppuration, abscess, and superficial ulcerations, have been familiar to most pathologists. Besides these, Dr. Stokes notices rupture of the valves, cardiac polypi, purulent cysts, and partial aneurism of the ventricles, so well described long ago by Craigie.

An interesting observation of Hasse is slightly alluded to viz., the fact of the tearing of diseased semilunar valves into shreds and filaments, which, covered with little wedge-shaped pellets of coagulum and effused matter, are floated in the arterial tube, in the direction of the current of blood. This accident has recently acquired much interest, in consequence of its greater frequency of detection, and its influence in producing gangrene in the sequel of carditic cases: which result, supervening upon the sudden cessation of the pulse in an extremity, might be sufficient to warrant a diagnosis.

The Third, Fourth, and Fifth Chapters are occupied with the consideration of diseases of the muscular structures of the heart, independent of inflammatory origin. As preliminary information, the conclusions given in Bizot's memoir on the dimensions of the heart and its different portions, are fully detailed, with a view of settling the difficult point as to the ex-

istence or non-existence of dilatation or hypertrophy in any given case on dissection.

The author's experience as to simple dilatation is, that though a murmur is rare, it may coexist, but is not to be always attributed, as Dr. Walshe believes, to coexistent enlargement of the orifice. No decided explanation is advanced, however, as to its real cause. We have more than once observed this condition in great dilatation without valvular disease. In connexion with this subject of dilated heart, the highly interesting case of the late Abraham Colles is fully detailed. When dilatation coexists with hypertrophy, besides increase of dulness, Dr. Stokes lays great stress upon observing "extension of the area of impulse," as one of the best-marked signs. Nevertheless, cases will occur in which the physical signs do not fully correspond to the actual state of the organ; thus, says he,—

> "It is often found that a greatly enlarged heart may exist without much augmentation of sound or of impulse. The organ does not contract with vivacity; and hence, though by the hand placed over the præcordial region we recognise a deep and extended pulsation, we find this pulsation feeble and wanting in localization. It is not uncommon on dissection to find the heart much more enlarged than could have been expected from the sounds, impulse, or pulse, as observed even for a considerable time before death."

Of course, in many cases where this difficulty is found, it may be accounted for by the existence of nervous debility, fatty degeneration, or simple unwieldiness, preventing full contractile power. But these explanations often come late for practical purposes.

Speaking of dilatation of the auricles, a very interesting suggestion is advanced, based upon the examination of a case of cardiac disease with general venous obstruction, in which there was considerable dulness, unexplained by any disease of the lung or pleura, with a most distinct diastolic pulsation. Aneurism was at first thought of, but afterwards abandoned. On examination, the right auricle resembled to the eye a vast purple tumour, which concealed the whole of the anterior portion of the right lung, and contained more than a pound of blood. In fact, as it is stated, the auricle had become an aneurism, so far as its mechanical relations were concerned. Reasoning from the circumstances of this case, as is the author's characteristic habit, he inquires, may not such a condition be possible in the ventricles? "I apprehend," says he,

"That such an action takes place in certain cases of fatty degeneration with dilatation of the left ventricle, for I have observed instances of this disease wherein the systolic sound was extremely feeble, yet in which the impulse was diffused and clearly diastolic, having a close resemblance to that produced in a true aneurism of the ascending aorta. The character of this impulse was altogether different from that produced by contraction of the ventricle. It was excentric, and its great dissimilarity to the ordinary impulse in fatty hearts tends to confirm the idea that it was produced in the ventricle by the systole of the auricle."

This is an average example of the manner in which he *reflects* in the examination of the details of an interesting case, and from the striking instances Dr. Stokes has given of the most important principles of diagnosis, pathology, and treatment, which have been solely and originally due to the suggestions made upon isolated cases, there cannot be a question as to the value and importance of mere observation, when carefully conducted, in promoting the science of medicine.

In connexion with the subject of dilatation, we observe that the opinion of Laennec on *clearness* of the sounds as a distinctive sign, is very much curtailed of its supposed value.

Several interesting cases, with explanations and reflections, are adduced upon the subject of enlargement of the thyroid gland and eye-balls supervening upon diseased heart. In one case, the condition of the gland was mistaken for aneurism, and a day appointed for applying a ligature to the carotid. Its diagnosis, as distinguished from bronchocele, is given, and reference made to Graves' account, published in 1835, in which, among other reflections, it is suggested that the thyroid body may be somewhat analogous to erectile tissues, and that the *globus hystericus* may occasionally arise from a temporary enlargement of this gland.

The enlargement of the eyeballs, which usually succeeds the violent cervical pulsations and thyroid tumour, is considered to arise from an augmentation of the optic humours. The following description of this interesting affection is so graphic, that those who have once observed the phenomena will immediately recognise it as a true picture:—

"Both eyeballs are simultaneously and equally affected, and, so far from signs of sanguineous congestion existing, the eye has a singularly clear and transparent appearance, which in some cases amounts to a morbid brilliancy. There is a peculiar staring expression caused not only by the prominence of the ball, but from the line of the sclerotic coat which is seen surrounding the cornea to a

greater or less extent. Under these circumstances a maniacal expression is produced. As the disease advances, the protuberance of the globe may become extraordinary. It protrudes outwards and downwards, and the lids being no longer able to cover the eye, the patient sleeps with the eyes open; yet it is a most singular fact that the power of vision is not in any way injured, nor is the patient rendered liable to ophthalmia. I have known a case in which, for upwards of a year, the eye was never closed, yet in which no vascularity of the conjunctiva, nor any form of ophthalmia, ever occurred.

"When emaciation takes place, the expression of the countenance produced by this staring, protuberant, and never-closing eye, is most painful and extraordinary. Yet so far as the eyes are concerned, the patients make little or no complaint. What they principally suffer from is the palpitation of the heart, the throbbing in the neck, and the sensation of fulness in the head and constriction when the head is bent forward so as to compress the thyroid tumour.

"In most instances we observe a want of proportion between the force of the pulsations in the arteries of the neck and those in other parts of the system. The carotid and thyroid arteries may pulsate with vehemence, so as to give the idea that all the vessels of the neck are enlarged and in a state of morbid activity, yet the radial pulse be small and weak, and only rapid or irregular according to the state of the heart's action."

As to the connexion between the peculiar conditions above referred to, and cardiac disease, the author candidly confesses an insufficiency of data necessary to establish a clear decision.

He is disposed to consider them as originally functional; and he is led to this conclusion from a careful consideration of the cases he has met with, which prove that the confirmed disease may be resolved, and that the combination with hypertrophy of the heart—a condition apparently most favourable for producing the disease in question, is rarely seen; nevertheless, though its essence and origin may be functional, organic change may follow.

On the subject of atrophy and weakness of the heart, reference is again made to the advanced stage of pericarditis, which presents a condition of great practical importance, and the proclivity to which demands from the practitioner the earliest attention.

Chapter v. contains a most instructive article, and indeed a tolerably complete monograph upon the practical points of "fatty degeneration of the heart." Seventeen illustrative cases are cited, either in abstract or detail. As to the nature of the two forms of this affection described by Laennec, the author is apprehensive that no strong line of demarcation can be made.

In a clinical point of view, however, two distinct classes of cases are admitted; viz., in the one the alteration is found in various degrees of development, although other organs than the heart have been prominently affected,—this is the complex case; while in the other the heart affection seems the principal lesion, and the general health continues good. Prior to Laennec's time, little was known about this disease; and since, especially in the first class of cases, notwithstanding the able researches of Paget, Quain, Hasse and others, it has been frequently overlooked amidst the accompanying more manifest lesions. Dr. Ormerod, whose microscopic examinations are cited, has clearly proved that this disease accompanies many and various maladies, and that in the dissection of the subjects of chronic diseases generally, it behoves the pathologist to ascertain, by the aid of the microscope, the actual condition of the muscle ere he decides as to the non-existence of the lesion.

"He must bear in mind that in many chronic cases, even although there be no symptom or well-marked sign to draw attention to the heart, yet that it may be more or less affected with this disease; and that, although the circulation appears to be carried on with a fair amount of strength, yet that the muscular fibres of the heart may be atrophied, and under these circumstances liable to a sudden failure of action."

The diagnosis of this condition in matured cases is possible, and the indications are given; but many instances occur in which it can only be suspected, or cannot be distinguished from a weak and dilated condition of the organ. Besides the physical signs of a debilitated heart, much importance is given to the symptoms referrible to the nervous and respiratory systems. The pseudo-apoplectic seizures, and their frequent repetition, characterize the former, while a peculiar *sighing respiration* distinguishes the latter. This latter sign "consists in the occurrence of a series of inspirations increasing to a maximum, and then declining in force and length, until a state of apparent apnœa is established. In this condition the patient may remain for such a length of time that his attendant may believe he is dead, when a low inspiration, followed by one more decided, marks the commencement of a new ascending, and then descending, series of inspirations." Dr. Stokes considers this symptom almost pathognomonic of "a weak, and, in all probability, a fatty heart." The pulse, too, presents some peculiarities. It may be accelerated, and occasionally intermitting, extremely feeble, irregular, and tingling, or permanently slow,—the last character implying an advanced stage, the former an

earlier or partial affection. When in combination with lesion of the aortic valves, the diagnosis is rendered much easier; the first sound being replaced by a prolonged murmur, loudest at the base, and extending along the aorta; the second sound is unaffected, and these signs are associated with the indications of a profoundly weakened ventricle.

In the Appendix to this chapter a remarkable observation made by Professor Smith, on the production of air in the heart and vessels prior to the commencement of putrefaction, is noticed, and the cause of this phenomenon is ascribed to the oily state of the blood, first recognised by this eminent pathologist.

Chapter VI. gives us a view of the author's treatment of the organic diseases of the heart, a subject which is characterized, not by novelty, or variety of the remedies recommended, but rather by simplicity and decision in the handling of the chief means already known. He discusses with great clearness and force the important practical questions,—When should we stimulate? when should we deplete? when should we salivate? &c. He thinks the usual practice of systematic writers too rigidly adapted to the assumption of the isolation of diseased conditions:—

"This mode of studying the subject," he says, "overlooks the great fact, that in many of these cases changes not only in the mechanical but the vital state of the organ, are continually going on; and that, even with the existence of organic disease, the state of the blood has a great influence on the physical signs, and also on the results of treatment. Nor is it to be forgotten that the most prominent of these signs do not always belong to the original and more important disease, which lies, as it were, hidden by the effects of the disturbance which it has itself excited."

Nevertheless he adds,—

"A time may come when the science of diagnosis will be carried to such perfection that we shall unfailingly determine not only the condition of each portion of the heart, but discover the rise and watch the progress of every interstitial change in its structure, and every mutation of its vitality."

In hypertrophy repeated leeching is recommended in preference to any other form of depletion. Digitalis, or hydrocyanic acid, anodyne applications, and small blisters, are the other means to be used in the simple form; but it must not be forgotten—and on this point he lays particular stress—that there may be present what the author calls a *passive hypertrophy*, a state for which stimulants are absolutely necessary, and which is most frequently met with in combination with permanently

patent aortic valves. And the necessity for more than ordinary caution, in pushing what might seem a rational treatment, will be appreciated, when it is taken into account, on the authority of such acute observers as Dr. Latham and the author, that the perfect curability of confirmed hypertrophy is simply impossible. The evil result of a lowering treatment in the combination referred to was long ago fully explained in Dr. Corrigan's original memoir, which is largely cited by the author, and to which we have specially pointed attention in the fifteenth volume of our present series[a].

The consequences of the *dilated heart*, which include pulmonary and hepatic complication, are shown to yield very generally to a mercurial course, which, though it may not cure, will decidedly relieve for the time; and, as in the case of the late Mr. Colles, be the means of prolonging life.

The debilitated heart arising from fatty degeneration can rarely be remedied in the maturer form; but, if the case be detected early, by plainness of living, nourishing but non-oleaginous diet, and an appropriate tonic (as iron), with attention to the state of the bowels, it is the opinion of the author that even a long life may be attained, and a good general health maintained. The indications for the continuance, diminution, or increase of stimulants, are specifically mentioned, and the gouty and cerebral complications fully explained, and their efficient management distinctly pointed out.

There is nothing peculiar, it will be seen, in the weapons Dr. Stokes here places in the hands of the practitioner; but the *when*, and the *how*,—those all-important *arcana*, which a lifetime of ordinary practice is necessary to establish, are given with a master pen.

The condition *of the heart in typhus fever* Dr. Stokes has made a subject peculiarly his own. His original observations on this subject were mostly made in the years 1837–38, and must be familiar to our readers. Additional observations of great value are here given, especially the development of murmur of the heart in the course of *the short relapsing fever*, which was so prevalent in the epidemic of 1847. Softening of the heart did not usually attend this condition, and the bellows murmur, or a prolongation of the systolic sound, was common, especially in the relapse, independently of carditis. The author notices the difficulty to which this new phenomenon might occasionally lead, and relates a case (LXIII.) in which the valves were really diseased; while many who saw the patient came

[a] Pages 409 and 410.

to the conclusion that the murmur was not organic. A few cases of maculated fever are also given in which a systolic murmur was heard.

The application of these cardiac phenomena to the treatment of fever are most important. An additional clue has been thereby afforded to enable the practitioner to discover the earliest moment when stimulants become necessary; and further, in the course of treatment, to offer a more decided prognosis. It is not alone, however, in cases of fever, that the application referred to may be of service, but in a large number of typhoid and asthenic conditions of the system, it is often of the utmost importance to understand accurately the coexisting force of the heart, in reference especially to the use of opium and stimulants.

Some interesting observations are presented in the eighth chapter, upon displacement of the heart, which, though not a disease, is a most important element in thoracic diagnosis. Attention is directed to its significance, as *one of the very first signs* of pleuritic effusion, and a reference given to Professor Smith's unique case of cardiac dislocation from pneumonic tumefaction. These forms the author is disposed to call *excentric* displacements, as also that due to emphysema, in contradistinction to those dependent on the diminished volume of lung, to which he gives the appellation of *concentric*.

Rupture of the heart, which gives scope for much pathological research, but without corresponding practical utility, occupies the ninth chapter.

The tenth chapter discusses a much more important theme, viz., *Deranged action of the heart*, in which angina pectoris, in connexion with the observations of Heberden, Parry, and Latham, neuralgia, the various forms of nervous palpitation, inorganic murmurs, the clinical value of fremitus, with rheumatic and gouty disturbances, are all clearly illustrated. The author is not so sanguine as some contemporary writers on cardiac pathology, as to the facility of making a correct diagnosis between functional and organic diseases. The opinions of Hope and Walshe with regard to the invariableness of the *site* of a functional murmur, for example, is objected to,—

"For I cannot help believing," says he, "that I have observed cases of inorganic murmurs which, so far as physical signs went, were closely similar to those of ordinary mitral disease with regurgitation into the auricle. And it must be borne in mind, that we are under difficulties in determining that a murmur is only produced at the base of the heart when the concomitant signs and symptoms which attend disease in that situation are wanting.

Again, cases may be met with in which the action of the heart is so tumultuous and irregular as to make the determination of the seat of murmur practically impossible."

A more important point of distinction is the absence of murmur in the second sound in the anemic or nervous cases. Even this, however, will not much assist us in what occasionally happens, a combination of organic and inorganic murmurs. Indeed—

"Cases of this sort are more frequent than is imagined; and their diagnosis, even to the best-informed physician, is full of difficulty. Let us suppose a case of regurgitant disease of the mitral opening, with its proper sound, in which anemic murmur exists at the orifice of the aorta,—one of these murmurs may be louder than the other; one or both may be musical; both are systolic; and fremitus may or may not be present:—he would be a bold and a badly-informed physician who, on a first examination, would declare positively in which orifice the disease was seated, or indeed, whether organic disease existed at all. Doubtless, the advance of diagnosis will diminish these difficulties, but it is most desirable that the younger practitioner should not enter on his profession believing that as he runs, so he may read the varied signs of cardiac disease."

The author questions some of Walshe's observations on the *reduplication* of the cardiac sounds, which the latter deems of comparatively little moment. In the case of rheumatic fever, for example, Dr. Stokes is disposed to believe that it indicates a proclivity to carditis, if not the disease itself.

The two last Chapters are concerned with the diagnosis and treatment of *Aneurism of the Aorta.* They will well repay perusal, as the entire subject is most carefully and elaborately worked out. The views of all the chief writers thereon are fully noticed; and the principles which approximate to "unequivocal criteria,"—a phrase of Hope's, which in its fullest sense he cannot admit,—are cautiously advanced.

The character of the sounds and impulse, the sources of thoracic pulsation, the symptoms of pain and compression, and the method of clinical examination, are all well illustrated. With regard to the existence of pain, it is an indication exceedingly irregular in every respect, and it is seldom, according to the author, that a correct interpretation can be given therefrom,—"We may often diagnosticate an abdominal aneurism from the character of the pain, but this is seldom the case when the tumour is situated above the diaphragm;" and yet, in abdominal aneurism, we may have erosion of the vertebræ without pain, and pain without any injury of the spine; and with regard to the symp-

toms of dysphagia and dyspnœa, and cough, these may be all absent, as well as all physical signs prior to the manifestation of the tumour. The association of aneurism with tuberculosis is noticed by Dr. Stokes as being comparatively frequent, which is certainly not what we should have expected. He admits, indeed, that any complications are limited: but, notwithstanding, so convinced is he of the frequency of this particular combination, that he has "often thought that there was a case deserving the name of consumptive or *strumous aneurism*, in which the same general morbid state which caused deposition of tubercle in the lung simultaneously affected the coats of the aorta." We observe no mention of this even in the most recent authors on tubercular disease. In the treatment, Valsalva's, and indeed all extensive depletion, are strongly condemned. Occasional leeching is, however, often of service; and a diet, nutritious and even generous, including a certain quantity of wine or other stimulant, will be most suitable as a general rule. The following extract is terse and to the point:—

"If, in a case of false aneurism of the aorta, there was no lesion, beyond a solitary perforation of the inner coats of the vessel,—if in true aneurism there were no morbid deposits, and the disease was nothing but a simple dilatation,—if there existed no such condition as the atheromatous diathesis, if the facility of coagulation of blood was inversely as its quantity of fibrine,—and lastly, if the anemic state produced tranquillity of circulation, then, indeed, might we expect good from a mode of treatment which, not content with removing the blood already existing, retards the formation of new blood, and thus depletes the system at both ends. Fortunately, however, for many of the subjects of this treatment, it is often but imperfectly carried out."

Dr. Stokes here brings his labours to a close with the history of abdominal aneurism, which is carefully and elaborately detailed; and perhaps in no other part of the work before us do we meet with more graphic and interesting writing.

Our readers will now readily perceive, from the analysis we have given, the general bearing and scope of the volume. We have glanced at but a selection from the many valuable hints, suggestions, and practical points with which its pages teem; and though we cannot but have noticed that much of the material has been already before the profession in other forms, yet so much has been added in the shape of emendation and original research, that we cannot consider this as a defect,—on the contrary, it may be fairly deemed as calculated to impart to the work a higher value, seeing that we are now presented with the results of experience tested by the touchstone of time.

This book will, of course, be extensively read. Every one who has studied the author's previous works will be, doubtless, anxious to see his latest production, and we can very well anticipate some important changes in the cultivation of the practice of medicine, which must result from such a general perusal. We can see plainly, that a closer, profounder, and more reflective study from clinical observation, than has hitherto been pursued, will be followed by "young medicine" of the present day,—that dogmatism will go down,—and that a buoyant spirit of eclectic inquiry, and an independent ratiocination upon the basis of *nature alone*, will take its place.

We believe, further, that the erroneous idea of a local morbid entity, as distinguished from that comprehensive view of the human economy which considers pathology, wherever manifested, as more or less of a general affection, must give way before the enlarged and liberal spirit which originates such a conception of disease as we find portrayed in this volume: and we feel well convinced that Dr. Stokes has laid down such an enlightened treatment of cardiac maladies as must to a very great extent revolutionize the authoritative and too general routine, which we fear still frequently characterizes the cardiac practice of the physician.

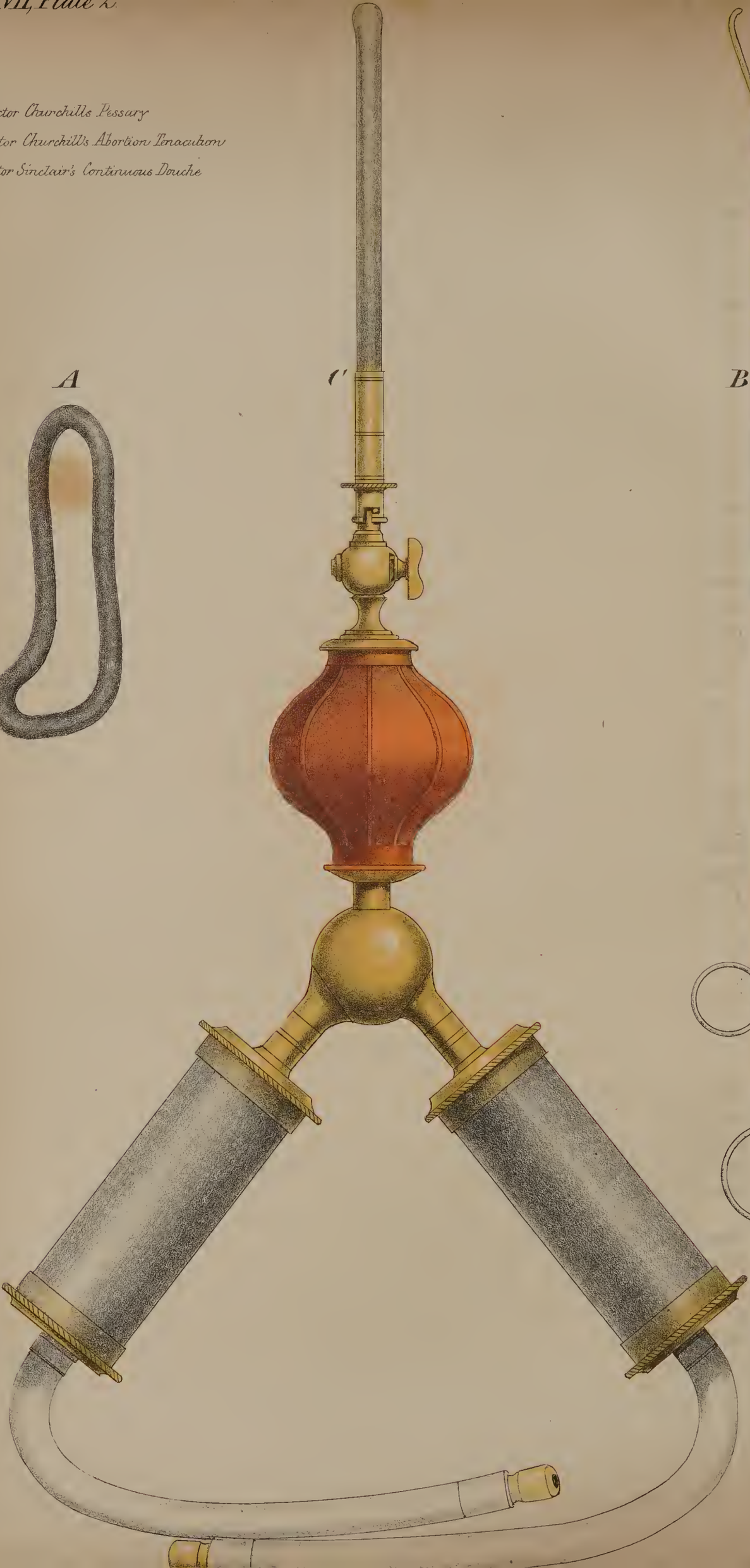
We cannot close our notice of this admirable volume without alluding to a feature of peculiar value, which every reader will appreciate—we mean the copious Index, and the excellent Epitome of the Cases detailed. We have to congratulate Dr. Moore, of this city, who undertook this particular task, on the ability which he has exhibited in providing this most convenient reference, the general want of which in works which are frequently consulted (as this volume will undoubtedly be) has been so often experienced.

The Elements of Materia Medica and Therapeutics. By J. Pereira, M. D., F. R. S, &c. Third Edition, enlarged and improved; including Notices of most of the Medicinal Substances in use in the civilized world, and forming an Encyclopædia of Materia Medica. Vol. II. Part 2. Edited by Alfred S. Taylor, M. D., &c., and George Owen Rees, M. D., &c., from the Notes and Memoranda of the late Dr. Pereira. London: Longmans, 1853. 8vo, pp. 1539 to 2316.

The death of Jonathan Pereira, in the prime of life and mental vigour, has left a great blank in the important department of medical science he so specially made his own. Endowed with

A. Doctor Churchills Pessary
B. Doctor Churchill's Abortion Tenaculum
C. Doctor Sinclair's Continuous Douche

A



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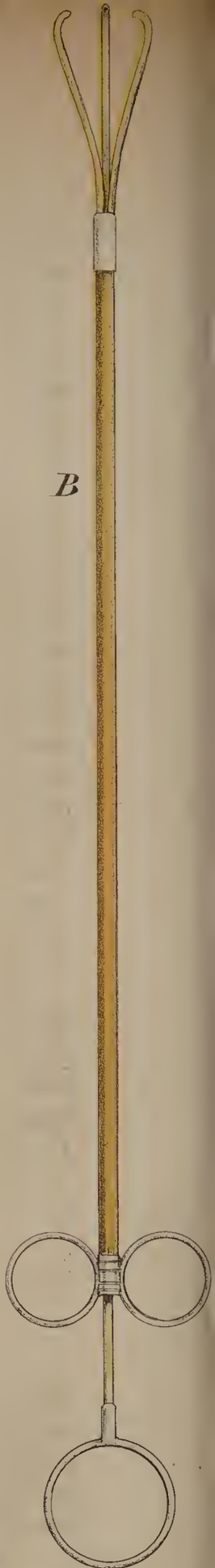

B

rare powers of generalization, and possessing indomitable industry, he rigorously investigated the entire of the Materia Medica. Examining, inquiring, sifting evidence, searching for information wherever it was to be obtained, referring to original authorities, and carefully reading and selecting from what had been written on the subject of his favourite study, he has bequeathed to medicine a great name founded on a great book. Pereira died at the comparatively early age of 49, while labouring to complete the concluding volume of his work, now before us,—the immediate cause of his death being ascribable to an accident received while engaged in the examination of a specimen with this object:—

"It was during a visit to the Museum of the College of Surgeons," write the editors of this volume, in a note at p. 2231, "for the purpose of examining the preparation to which the preceding plate [of Para isinglass] refers, that the late Dr. Pereira met with the serious accident which confined him to his bed, and from which he was just recovering when he was suddenly seized with fatal illness. The above was written while he was confined to his bed, and it was one of the last articles from his pen."

It was, then, with a mingled feeling of grief for his loss, and gratification that the greater part of his Cyclopædia of Materia Medica had received careful emendation and many valuable additions from his own hand, we received this concluding volume. Dr. Alfred S. Taylor, the eminent chemist and toxicologist, and Dr. G. O. Rees, were selected to edit the concluding portions which Pereira was not spared to complete,—the article "Cinchona," we are informed, being "the last which passed under the hand of the author." From page 1682 to page 2285 of this edition is therefore the portion revised by the editors, and we must honestly state our expression of regret that the task they undertook has not been at all satisfactorily performed,—but little pains being bestowed in adapting to it the alterations consequent on the publication of the new editions of the London and Dublin Pharmacopœias. In proof of this we could cite many examples we have met with in our constant reference to a book which should be in the library and on the table of every practitioner. The following are but a few:—In the last edition of the London Pharmacopœia the density of Creasote is given as 1046, not 1037 (page 2011); in the same, Buchu is stated to be the leaf of Barosma serratifolia, B. crenulata, and B. crenata, not of *various species* of Barosma (page 1910); the form for Syrupus Althææ is altogether wrong (page 2047); the statement that the London College adopts

the opinion, that balsam of Tolu and balsam of Peru are both yielded by the *same tree*, is left unaltered (page 1829); and the reference of the Dublin Pharmacopœia, of 1826, of the same substance to Toluifera balsamum, instead of Myrospermum toluiferum in that of 1850, is retained; at page 2144 the characteristics of acetate of morphia in the London Pharmacopœia of 1836, and not those in the last edition, are given: the great difference in the strength of the *solution* of this salt in the London and Dublin Pharmacopœias is not noticed; the syrups of morphia of the last edition of the Dublin Pharmacopœia are not mentioned; the syrup of citric acid and the effervescing citrated powders of the same Pharmacopœia are likewise passed over; Pyroxylic spirit shares the same fate, and its medical uses are not noticed at all; and at page 1979, in the London process for chloroform, *aquæ quadruplum* is translated "a quarter of the water."

But we have cited enough examples to show that, to say the least, the editing exhibits marks of haste. Nevertheless we have several valuable additions, which can be easily traced to Dr. Taylor's pen, scattered throughout the volume; and we should not have noticed the above blemishes, evidently the result of carelessness, were it not that, understanding a new edition of the entire work will ere long be published, we are anxious to impress on whatever editor, it may fall into the hands of, the minute attention and care which will be required from him in its revision.

Anteckningar om de förnämsta Medicinska Skolorna uti Italien, Frankrike, Holland och England. Af Prof. C. Santesson. Hygiea, April, May, June, and July, 1853. Stockholm: C. E. Fritze.

Sketches of the Principal Medical Schools in Italy, France, Holland, and England. By Professor Carl Santesson.

Gli Spedali e gli Ospizi di Parigi e di Londra, visitati nella primavera dell' anno 1852. Dal Dott. Pasquale Landi, di Cinigiano (con figure intercalate nel testo). Firenze, Tipografia di Mariano Cecchi. 1853. 8vo, pp. 349.

The Hospitals, Lunatic Asylums, and Charitable Institutions of Paris and of London, visited in the Spring of the year 1852. By Dr. Pasquale Landi, of Cinigiano (with woodcuts interspersed through the text). Florence.

We were once told by a Swedish visitant of our city, that of all European languages, his tongue, in sound, most closely re-

sembled the Italian, and we were, in fact, agreeably surprised to find it, as it then for the first time impinged upon our ears from the lips of a native, soft and mellifluous as the purest Tuscan. It is not, however, the hope of discovering a corresponding similarity of sentiment between the writers,—though such an inquiry, too, might have both its interest and its utility,—but it is simply the coincident arrival upon our table of the four numbers of the "Hygiea," and of the volume entitled "Gli Spedali," which leads us, on the present occasion, to compare the accounts of some of the medical, charitable, and educational institutions of this and the neighbouring empire, given by the inhabitant of the rugged north, with the description drawn of the same by the denizen of "sunny Italy."

As, however, the authors whose writings we thus purpose to examine, have not followed exactly the same route, and do not in all instances dwell upon the same objects, our review will rather enable the reader to compare the general tenor of their remarks, than aim at instituting a rigid parallel between their observations. We shall commence with the notes given by Professor Santesson of his visits to the principal medical schools of Italy, France, Holland, and England, as, after a long intermission, they re-appear in the April and subsequent numbers for the present year of the Hygiea. We have already had occasion to bring Professor Santesson under the favourable notice of the readers of this Journal, in connexion with his work upon the hip-joint and its diseases, and we trust he will now, without any further suspension, complete the account of his European tour, the publication of which he had discontinued so far back as December, 1850.

The number of the Hygiea we have alluded to contains the conclusion of the Professor's tour in France, and an account of his visit to Holland, which latter country has three medical faculties in the Universities of Leyden, Groeningen, and Utrecht. In addition to these there are three medico-chirurgical schools,—one in Amsterdam, forming part of the "Athenæum," one in Deventer, and one in Franecker. There are, also, an institution for the education of military physicians, and a veterinary school, both in Utrecht; and a smaller medical school in Rotterdam. The author pays a well-merited tribute to the talents and labours of Schroeder van der Kolk, Mulder, Donders, Harting, Van Deen, and other distinguished Dutchmen; and adds, that "it may deserve to be mentioned, as a proof of the scientific life and literary activity which prevail in Holland, that in that country which, in point of population, is inferior to Sweden, there were published, in the

year 1851, not less than twenty periodicals on subjects connected with natural history and medical science, about twelve of these being more exclusively devoted to physic and its several branches."

But we must pass on to the division of his papers headed "Great Britain and Ireland," as being the portion which is more immediately interesting to ourselves; but in doing so we regret to find, that the numbers of the Hygiea we have as yet received do not bring us to the particulars of his visit to our own part of the United Kingdom[a].

We think it both interesting, and in a high degree instructive, to learn the judgment passed upon us by strangers; and, as the author's general remarks on these kingdoms show deep observation on his part, and contain much truth, we shall, at the risk of extending our review beyond its proper limits, translate them at length:—

"The medical schools of Great Britain, as well as her entire educational system, exhibit many remarkable and striking peculiarities. A stranger, accustomed to the institutions of Scandinavia and the Continent, will certainly be surprised at what meets him on his first appearance in Albion's insular realm. The picture which here strikes his view will, at the first glance, doubtless, attract his attention by the immense, we might almost say colossal, dimensions it presents, and by the changing, stirring animation it exhibits. If he undertakes to examine its several parts more closely, they will, both in their origin and in their relations to the other parts, remain a riddle to him, unless he had previously, either by study, or by personal experience, made himself familiar with the English national character. Of this the entire system of instruction in England, as well as all the other social institutions in that country, is a derivative and a faithful reflexion. It is evident that both have grown on peculiar ground.

"If we direct our attention especially to the medical educational institutions, we find a strange intermixture of old and new; of mediæval forms side by side with the most modern regulations of the nineteenth century. We may learn much by the comparison:—everywhere life, though, if I may so express myself, in unlike degrees, of unequal strength, and therefore with unlike results. We see it, under the operation of centuries, extending and finally bursting the old form, creating

[a] While these sheets are passing through the press we have received the Numbers of the Hygiea for August and September last, containing the continuation and conclusion of Professor Santesson's tour, but from the late period at which they arrived we are obliged to postpone a notice of them until our next Number.

new paths for itself, and developing in new directions its indwelling power. It would be a manifest injustice to ignore the Englishman's pious veneration of what is ancient and prescriptive. His country, his political and municipal institutions, on the contrary, plainly declare, that he can boast of possessing this quality in a higher degree than most other civilized nations, but the *free* development of the several moral and intellectual powers, which makes it possible for him to become all that he is capable of becoming, and permits him as man in his family, and as citizen in society, to accomplish the best he can according to the talent he may possess, neutralizes the slavish and excessive respect for what is old, and hinders it from degenerating into a lifeless formalism. It is the general state of things I here advert to; it is the medal's obverse which is so bright and beautiful;—it has a reverse on which the antithesis is but too remarkable, as will be seen in the following exposition.

"The above development of individuals to a free and independent personality, both in private and in public life, begun with the earliest education, and subsequently steadily carried on, is an ancient national inheritance in England[a]. It is it which peculiarly constitutes the country's internal moral strength, and makes its people a free and mighty nation. It is this circumstance which gives even to the great mass of the people a maturity and independence in thought and action which makes them as worthy as they are legally entitled to govern themselves. The old forms indeed are still partly adhered to according to ancient custom, but they are not considered to be of importance, and the spirit which animates and directs the whole is strong enough, in spite of such obstructions, to make a way for itself to the desired object. I am acquainted with none who go so directly to the point as the Englishman. He has no mind for long circumventions or indirect methods, nor does he ever lose sight of the main point, either in laying out the plan of an undertaking, or in putting it in execution. With clear and ready comprehension he sees a thing in its true light, and is little troubled with what are called considerations. It is thus he has obtained the advantage over most if not all

[a] "I speak here of the great and predominant so-called educated part of the nation: for a well-marked contrast to the above condition is presented by the legions of mental and bodily paupers, which principally consist of, and are recruited from, the numerous families of the factory labourers. The position of the latter has long formed an exception, and that of the most characteristic kind, to what I have described in the text. During the last ten years, however, their situation has been in many respects essentially improved, and there is reason to hope tha t they may still more and more attain the enjoyment of enlightenment and th happiness and blessings of true liberty."

other nations, in what he himself calls 'common sense' and 'practical ability.'

"As a proof, on the large scale, of what I have above advanced as to the independence and moral maturity which distinguish the mass of the English people, it is only necessary to refer, as one example among many, to their educational institutions, from the lowest to the highest—the universities. It will doubtless, surprise many to hear that the important subject of education is in England for the most part intrusted to the free choice of the commonalty. If they wish to seek and procure education, they themselves examine where and how it can be obtained, and they moreover pay the cost themselves. Government is on this point for the most part passive, and merely takes care that nothing done in this way is hostile to the Established Church, or contrary to the existing law. In other respects, freedom of education has long been an acknowledged principle. A consequence of this is, that with very few and comparatively inconsiderable exceptions, all educational institutions are of private foundation; and this is true of the entire series, from the smallest infant schools up to the high schools or universities. It is, in fact, a very limited number of Chairs in the last-named establishments which are instituted and salaried by the State. The majority are founded on private donations, and the denomination 'university' is only a collective name for an assemblage of all these Colleges and Chairs, often created at different periods."

The question of granting the boon of public education on an extended scale to the English people has, it is true, been mooted; but as yet the national system, if compared with the comprehensive plans existing in America, Prussia, and other countries, forms but a small exception to the truth of the author's remarks.

"The state of things now described thus exhibits," continues Professor Santesson, "an essential difference between England and what is found both with us and on the Continent. The very circumstance, that a subject so important and momentous to the State as that of education, can be left almost entirely in the hands of private individuals or corporations, indicates both deep intelligence and a general recognition in society of the value and importance of education. It shows that the nation has emerged from childhood, and can stand forward and act as an independent and mature moral personality. What a striking contrast to the countries where the State is compelled, like a guardian and monitor, for the most part to defray and administer nearly the entire of the people's educa-

tion, even that part of it which ought never to be given elsewhere than within the bosom of the family! It is not enough that the State bears the expense of the institution of schools and educational establishments, and pays, as well as it can, teachers in them; it must almost carry the younger children to school, and with all kinds of rewards entice the elder to come, in spite of the indifference of parents and guardians, or their obstinate repugnance to such 'schemes.' It is a sad proof of the moral condition of the mass of the population of a country, where the reality of the state of things I have just described is testified by daily experience, and, more than anything else, demonstrates its mental immaturity. People invoke the State and appeal to the Government as if they themselves had neither ability to think, nor power nor call of duty to act. The limits of this notice do not permit me to investigate more closely the reasons and causes of a state of things as humiliating as it is worthy of the attention of every patriot. I have merely endeavoured to point out this as, in my opinion, one of the principal causes of the dissimilarity presented by the educational institutions of England, and among these, by the medical schools, to our own and those on the Continent."

The question, however, naturally arises in the mind, whether this indifference to education be a cause or a result of the ample provision made in Sweden for bestowing its blessings on the community. Professor Santesson's remarks would go to prove that there is much wisdom in England's non-interference with those who are able to procure instruction for themselves, but undoubtedly it is the first duty of a State to see that none of its members remain in ignorance; and our country, with all she has accomplished, has much to answer for in her past shortcomings in this respect, as the author has himself pointed out in reference to the factory children, and the families of the manufacturing labourers[a].

The author points out how all public bodies or corporations in the United Kingdom originate in the first instance with the people themselves, and that it is after these originally private societies have proved their importance or general utility, that they are recognised by the State and declared to possess public authority. He also shows, that while in Sweden the power of examining and conferring degrees is considered to rest almost inseparably with the bodies engaged in teaching, the College of France is a remarkable proof not only of the possibility,

[a] See on this subject a work entitled, "Remedies suggested for some of the Evils which constitute the Perils of the Nation." Seeley, Burnside, and Seeley, London. 1844. Second Edition, page 135, *et seq.*

but even of the advantage, of an opposite state of things; and that, so far as medical education is concerned, Great Britain and Ireland agree in this respect with the last-named institution: an arrangement which, he observes, must obtain in a country where the business of teaching is not restricted to certain schools or institutes. Thus, he adds, while the number of schools is almost Legion, there are in England but six institutions which are empowered by Charter or Act of Parliament to confer medical degrees, or the right to practise medicine, surgery, midwifery, or pharmacy: those which he enumerates are, the Universities of Oxford, Cambridge and London, the Colleges of Physicians and of Surgeons, and the Apothecaries' Society.

Professor Santesson next enters at length into a description of the University of Oxford, its members, with their stipends, the terms, the regulations, system of education, &c. In speaking of the medical course, he observes that it is remarkable, that among the requirements laid down for obtaining the degree of Bachelor or Doctor of Medicine, not a word is said about attendance on hospital, or of the necessity of clinical institution,—an omission which is the more strange, as Oxford possesses an hospital (the Radcliffe Infirmary), containing 120 beds, in which 1000 or 1100 patients are annually treated, but where no regular clinical instruction is given. It ought to be added, he says, that the students of their own impulse (drift) supply this striking deficiency in the academic regulations, generally by attendance on some of the London hospitals.

Having described the regulations for obtaining medical degrees at Cambridge, he observes that this institution comes nearer in its general system to the requirements of the present time than the sister University of Oxford, while both are manifestly deficient in the arrangements for medical education. Besides this deficiency, it is evident that the small cities in which these universities are located can never afford opportunities of acquiring a knowledge of practical medicine at all equal to those obtainable in the metropolis and in the hospital schools of the larger provincial towns, and that the number of medical men competent to convey the necessary instruction must in them be very small. But in fact "the new shoots incessantly sent forth by the branches of the tree of science, the new paths and directions which the human spirit of investigation, time after time, strikes out for itself and pursues within the boundless domain of knowledge, must more and more plainly demonstrate the impossibility of collecting together and uniting in one place, and above all in a minor city, all the ramifications of science comprised in the idea of an university."

The author justly condemns the neglect by the ancient universities of professional education, a defect, the existence of which, he observes, among other evil consequences renders impossible, or at least difficult, the necessary connexion between theory and practice, and deprives practical avocations of public respect and co-operation.

Such considerations, with others partly religious and partly political, led to the foundation of the University of London, an institution based on the principles of being independent of the Established Church, and open to the professors of every creed, and of recognising the necessity of having the more prominent branches of the practical sciences specially represented. Of this and its two component parts, University College and King's College, the author gives a full description, the former holding the principles first mentioned, while at the latter, its *quondam* rival, the same religious restrictions are enforced as at Oxford and Cambridge; though the system of education is arranged on a more extensive and more liberal scale, better suited to the requirements of the present day, and in many respects similar to that adopted at University College.

The author next describes the College of Physicians, the College of Surgeons, and the Society of Apothecaries. In speaking of the first he alludes to the evening meetings—"access to which," he observes, "is easily obtained, and they, as well as those at the College of Surgeons, and the Medico-Chirurgical Society are both agreeable and useful to the traveller. Introduced by a friend, he here meets assembled a number of notabilities, and can easily make acquaintance with whom he wishes. By this much time is saved; visits and dancing attendance are avoided, and the stranger has always the golden option of easily continuing, or of breaking off without offence, any acquaintance he may have formed at them."

With the College of Surgeons he describes the museum, to omit which would be, he observes, like writing a monograph on modern Rome, and ignoring the existence of Saint Peter's. In connexion with the Society of Apothecaries he alludes to their Hall at Blackfriars, which has, he says, undoubtedly the largest laboratory and the most extensive drug trade in the world.

From the foregoing it will be evident that Professor Santesson is a deep thinker, a careful observer, and a faithful recorder of what he has seen. We therefore hope shortly to receive further numbers of the Hygiea, and thus to be enabled to bring before our readers an abstract of his remarks on the medical schools of England, to which, having disposed of the

"licensing bodies," he promises next to direct his attention; as well as of his account of the institutions which lie westward of St. George's Channel, and more immediately concern ourselves.

Dr. Landi's book commences with a description of the hospitals of Paris and of London, arranged under the three heads of the General Hospitals, the Special Hospitals, and the Hospices; the latter including, in the case of Paris, the Maternité, the Salpêtrière, the Bicêtre, the two Hospices des Incurables, one for men and one for women; the Foundling Hospital; the Hospice des Mènages, for old widows and widowers, some of whom pay an annual contribution; the Institution de Sainte-Perine, for old people of both sexes, who pay 600 francs a year; and the Hospice de la Rochefoucauld, for superannuated and pensioned male and female employés of the hospices; and, in the case of London, the Bethlem, the Magdalen, the Foundling, and St. Luke's Hospitals, and the Deaf and Dumb Asylum.

The author's general remarks on the hospitals and hospices of England are strikingly similar to the observations of Professor Santesson in reference to her educational institutions. "In no respect," he observes, "do they, either in their foundation or management, resemble those of France. There is no directive centralization, no dependence on the Government, no bureau, no central pharmacies, no impositions on the citizens, on the municipal corporations, on the State, or on the public spectacles. The same spirit of association which guides the English in their great commercial speculations presides over the foundations of their charitable institutions, among which the hospitals and hospices hold the first rank.

"The spirit of association is perhaps nowhere so prevalent as in England. Philanthropic societies, as well as those of mutual succour, are most numerous, and watch with activity and love over the indigent, the orphans, the prostitutes, the children of convicts, the pregnant, and the sick. To enumerate all these societies, and the institutions they have called into existence, would, even were it possible to do it, carry me too far."

The second part of the volume is devoted to a comparison of the clinical instruction given in Paris and in Tuscany. The author adopts this plan, because, in the hurried examination he was able to give the system followed in London, it did not appear to him to differ materially from that pursued in the French metropolis: to compare either of these, then, with the

mode of teaching employed in his own country, was clearly the course likely to be most useful to the majority of his readers. The method of clinical instruction being the same in Paris in medicine and in surgery, may be studied as applied to either medical or surgical cases; the author selects the latter, while he purposes, in speaking of the Tuscan mode, to examine it (for reasons which will appear), as applied to medicine.

"Surgical clinical instruction in Paris," he observes, "is at present nearly in the state in which Dupuytren left it." In describing the mode of teaching followed by this illustrious surgeon, the author quotes Vidal de Cassis. "In the wards he spoke but little, particularly to the pupils. In cases in which the diagnosis was difficult, Dupuytren did not prolong his examination beyond the usual time; nor did he either at the bedside or in the lecture-room allude to the case until the diagnosis was, in subsequent visits, established. He rarely communicated his doubts to the audience. When he explained the elements of his diagnosis to the pupils, he scarcely ever employed the indirect mode; he did not proceed by exclusion: having once acquired certainty, he took ostensibly the direct method, and this it was which he pointed out to his pupils. This procedure (Vidal justly observes) is more brilliant; it gives the teacher an air of superiority which is more seductive to his hearers; but it appears to me that it would be more for their advantage that the professor should communicate his doubts; that he should, so to speak, make his auditory assist in the intellectual labour by which he arrives at the solution of the chirurgical problem. It is necessary that the pupil should be made acquainted with its mechanism in order to make use of it subsequently."

The author illustrates his subject by accurately describing Velpeau's morning visit to La Charité. As a stranger, he felt it a loss that the papers appended to each bed, giving the name, age, and residence of the patient, did not also exhibit the diagnosis, causes, symptoms, and treatment of his ailment,—an omission which he considers to be injurious to both the pupils and the patients,—depriving the former of much instruction, and subjecting the latter to repeated interrogatories, which, in some diseases especially, must be objectionable. He also reprehends the silence observed by some of the French surgeons as to the nature of the affections under their care: and illustrates this want of communicability by some cases which he narrates.

Another defect which he finds in the system is, that the great majority of the cases are not placed upon record: conse-

quently, many practical observations are lost, the utility of preserving which appears to him to be incontrovertible. "It is only a few particular cases which see the light through the exertions of the journalists, or of some of the students, or by being introduced into works published by the professors themselves; the greater number are lost; while a smaller proportion are noted in the album of some student, with the laudable design of profiting by this means of instruction." The principal cause of the want of clinical teaching at the bedside he has described appears to the author to be the excessive number of patients, which obliges the professor to go round the wards with great rapidity: how much better, he adds, would it not to be to assign twenty-four or thirty beds to each, than forty, sixty, or even more.

The professors are obliged to give clinical lectures three times a week. They commence by giving the diagnosis of any new cases which may have been admitted during the preceding forty-eight hours; but in doing so they use the direct method, and are so concise and dogmatical, as to afford but little instruction.

The author describes and gives a woodcut of Professor Laugier's instrument for taking blood from inflamed bones, and for giving as early as possible exit to accidental productions which may have formed in their interior; but he considers that the irritation produced by perforating the bone must more than counterbalance the relief which it might be supposed the inflamed part would derive from the abstraction of blood. Moreover, in the case in which Dr. Landi saw the instrument tried, it failed to draw a drop of blood.

The author next remarks on the want of uniformity in the doctrines taught in the several hospitals and at the faculty; not only do the doctrines of the faculty differ from the lessons taught at the hospitals, but those inculcated at the Hotel-Dieu, for example, are at variance with what are advanced at La Charité. He concludes his chapter on clinical instruction in Paris with a digression on French medical literature, characterizing the works of French writers as being, in general, nothing else than copious collections of clinical facts, never or rarely reduced to general principles,—"a mode of compilation," he adds, "which, in my opinion, explains the facility with which such works are composed. It is true that all sciences are formed by the collation of many particular and similar truths, noted by experience: whence the discovery of facts is regarded as the first part of knowledge, and constitutes the foundation of

science; but this is not enough, since the investigation of causation must be joined to the recognition of facts, and must be followed by the scientific arrangement of the facts themselves."

Having pointed out the principal defects which appear to him to prevail in the plan of clinical instruction pursued in Paris, Dr. Landi proceeds to show what is, in his opinion, the best mode of avoiding them, and this is, in fact, the method adopted in Tuscany. The latter appears to us, from the description given of it, to differ in no material respect from the system which has been for so many years pursued in Dublin and Edinburgh, and which consists in assigning a certain number of patients to each clinical pupil, who is bound to examine his cases before the visit of the physician, and to state the diagnosis and prognosis he has arrived at, with the treatment he proposes, before the class,—on which points he is subject to examination and correction by the physician. This system was, we are informed, introduced into Tuscany, and brought to perfection by Professor Maurizio Bufalini, characterized by a French writer as "a brilliant teacher, an ingenious critic, and a profound and able practitioner. Through him," continues the same writer, "the clinique of Florence has acquired an incontestable superiority over all the other cliniques of Italy"—and he might have said, adds our author, of France and England.

Having described the mode of reception, selection, and classification of patients in the hospital at Florence, the author proceeds to give a detailed account of Professor Bufalini's method of clinical instruction. He also enters fully into the consideration of diagnosis, which he divides into the direct, and that by elimination, the latter resembling, but, he says, not being exactly the same as, the differential diagnosis of the French; this latter distinction appears to us, we must confess, a little fine-drawn. Every individual who dies in the clinical wards is subjected to necroscopic examination, and the autopsy is made in the presence of all the pupils, the clinical physician, the professor of pathological anatomy, and the anatomical demonstrator. In these examinations, the microscope and chemical analysis are employed, nor are these important means neglected in forming diagnosis during life. Lectures on diseases, treated in the clinical wards, are only given from the Chair in cases which, from the singularity of their course or termination, or from the importance of the phenomena observed after death, demand fuller illustration than can be given at the bedside of the patient. As an example of such lectures, the author quotes one by Professor Bufalini, reported by Dr.

Lorenzo Fallani, on two cases of puerperal fever. To this chapter the author appends a model of the Tables kept in the hospital, filled by him with the history of a case extracted from the clinical books, as an example of the logical accuracy with which these Tables are prepared, and of the facilities they afford for collecting the particulars of any illness.

It will be seen that the author has, in speaking of clinical instruction in Paris, found fault by implication with that in London; in reference to this point, we would remind our readers of his opening statement, that his survey of the hospitals in the latter city was but a flying one. We have not ourselves had the opportunity of recent personal observation on this subject, but we believe that at many at least of the London hospitals especial pains are taken to make the clinical instruction as practical as possible.

Dr. Landi devotes the third part of his book to the study, in a practical point of view, of some surgical cases of greater importance seen by him in the hospitals of Paris, Lyons, and London, and to a comparison of the French and English practice with the Tuscan. He commences with the consideration of fractures as being the most frequent cases. It struck him as a most singular fact that, while some make use of mechanical means to keep fractures reduced, others rely upon position alone as sufficient to bring about perfect and regular reunion. Thus, in the clinique of Professor Malgaigne, at the Hospital St. Louis, the most complicated apparatus is employed, even including the barbarous hooks used for retaining *in situ* the portions of a broken patella, and which are made to traverse the skin, the areolar tissue, the fibrous expansion of the tendon of the rectus muscle, the periosteum, and the bone,—a plan of treatment which the author justly deprecates as productive of the worst consequences; while in that of Jobert de Lamballe, the majority of fractures are treated with mere position maintained by the most simple means. In the other hospitals of Paris, there is, observes Dr. Foresi, an Italian writer quoted by our author, less of exclusiveness and more of rationality.

In London, where fractures abound, the diversity of principles and of practical systems which prevails in Paris does not exist, but these accidents are treated nearly by one method. The author gives a long description, illustrated by woodcuts, of an apparatus of his own for fractures of the lower extremities, by which the horizontal, semi-flexed, and simply oblique positions can be easily obtained and kept up. He also points out at length the cases in which each of these positions is most suitable.

In the section upon orthopedics are given a description and representations of Mr. Tamplin's apparatus for counteracting lateral curvature of the spine.

The following chapters are devoted to the consideration of organic strictures of the urethra; of lithotomy and lithotrity; of the treatment of affections, evidently cancerous, with the actual and potential cauteries; of cysto-vaginal fistulas; of the operation for strangulated hernia; of excision of the tonsils; and of the operation for cataract. In the chapter on that subject, Dr. Landi describes Professor Jobert's (de Lamballe) operation for the cure of vesico-vaginal fistula; but although he saw one patient in whom this infirmity had been completely removed, his account is not, on the whole, very strongly in favour of the operation, as he admits that in the majority of cases it is necessary to repeat it a second and even a third time.

The fourth and last part of the work is occupied with a description of the anatomical and physiologico-pathological museums of London, including the Hunterian collection and the Museums of St. Bartholomew's, Guy's, the University, St. George's, and the London Hospital.

In conclusion, we would call attention to the great advantages derived by our professional brethren in Sweden from the frequent publication of the observations made by intelligent and scientific members of their body during their visits to countries which, from geographical position, are more favourably situated than their own for carrying on united efforts for the advancement of knowledge. So much are these advantages appreciated in that kingdom, that such journeys are often undertaken with the assistance of a stipend from the Crown,—a condition of this support being, we believe, the publication of notes of what has been observed during the tour. Independently of the intrinsic merits of the works we have on the present occasion noticed, and of the knowledge of ourselves which we may derive from the observations of our visitors, we have especial pleasure in calling the attention of our fellow-countrymen to such "pencillings by the way," because in so doing we feel that we are contributing our share, though this be but a small one, towards drawing the profession, in all parts of the world, into what it ought to be—one brotherhood. And we fervently trust that the progress of so desirable a fraternization may not be interrupted by the rude and ruthless hand of war, which now threatens a disruption of friendly intercourse between man and man.

A Manual of Obstetrics. By Thomas F. Cock, M.D., Phycian to the New York Lying-in Asylum, Physician to Bellevue Hospital, &c. New York: A. S. and W. Wood. 1853. 12mo, pp. 250.

However useful and proper short manuals may be in their place, we have a great dislike for such scanty expositions of medical science: they give to the student a pert smattering of information, without the slightest real knowledge of the subject; and, what is worse, it is so much easier to learn from them than from practical treatises, that there is great temptation to substitute the one for the other. It is true that, after fairly studying a subject, it may be of use to a pupil to run through such a book as the present just before an examination, but this is almost the only exception we would make to the rule.

Dr. Cock feels the necessity of an apology for publishing his work when there are so many valuable treatises, and he offers the following explanation:—

"Having been for several years engaged in teaching midwifery, I have experienced the want of some handbook for students attending lectures in this department,—a *skeleton collection of facts*, which, by being interleaved, might answer as a syllabus for the teachings of any school. I therefore took, as a basis, my notes of the lectures of Professor Gillman, and gradually, for a number of years, added such facts and opinions as reading and experience developed. Without seeking to turn aside the student from the study of elaborate treatises, from which alone he can learn reasons for practice, this little work is designed to convey, as briefly as possible, *facts*, as far as ascertained; and, where definite conclusions have not yet been reached, recent *opinions*, so as to present, as near as may be, a miniature of modern obstetrics."

We have looked through the volume, which shows familiarity with the present state of the science, and, so far as a bare enumeration of facts goes, we think Dr. Cock has succeeded; but, as we have said, we do not think that this is the way to *learn* midwifery.

On the Advantages of the Starched Apparatus in the Treatment of Fractures and Diseases of the Joints, being the first part of an Essay to which the Council of University College have awarded the Liston Clinical Medal. By JOHN SAMPSON GAMGEE. London: H. K. Lewis. 1853. 8vo, pp. 89: with woodcuts.

AT various periods, in the progress of surgery, we find efforts made to introduce an apparatus for fractures which should combine perfect immobility with adaptation to the natural irregularities of the limb. In Mr. Gamgee's treatise many instances are brought forward of this recurring tendency,—for example:

"The ancient no less than the modern Greeks employed a permanent apparatus which was applied soon after the receipt of the injury, and which with perfect security enabled the patient to move the limb in any direction; for the purpose of consolidating the apparatus, which was not removed from the moment of its application to that of a perfect cure, a composition, into which mastic entered largely, was used."

In Tunis, moulds of plaster are at present used in the setting of fractures; in India, potter's clay is applied for the same purpose; Ambrose Paré, Cheselden, a Frenchman of the name of Belloste, and others, brought forward the principle; and, in the present century, Baron Larrey in military practice, and Velpeau in civil, urged its adoption, and gave it the weight of their example. Velpeau does not, however, recommend it in all forms of fracture. We remember, when following his clinique at La Charité, to have seen it applied only to some of the simpler fractures, and to ununited fractures. It remained for Baron Seutin, of Brussels, to modify the immovable apparatus so as to render it applicable, in our author's opinion, "to all fractures, whether simple, comminuted, or compound, as well as to sprained and diseased joints, to wounds having a tendency to cicatrization, to cases of necrosis," &c.

In this country we are not aware of its being anywhere in general use, except for ununited fractures and chronic diseases of the joints; its success in these cases might have induced its more extensive adoption, but for the difficulty of arranging it so as to admit of inspection of the limb without disturbance of the parts. Now that M. Seutin has devised means for combining both objects efficiently, it will be certain to come into more general favour. To put forward its advantages over all other forms of apparatus, in every variety of fracture, is the object of Mr. Gamgee's treatise.

In the First Chapter the new mode of applying it, and the general principles of its action, are considered. Cotton-wool, lint, or tow, with splints of thick porous pasteboard, bandages, and starch, are the materials required. To illustrate the mode of application, he supposes us to have to deal with a case of recent simple fracture of both bones of the leg, a little above the ankle-joint; we must premise that he directs the splints to be *torn* to the required size, not *cut*, as the edges are thus made less hard and sharp:—

"Three splints are required: a straight one to be placed at the back, and to reach from half an inch above the heel to four inches above the knee; and two lateral splints reaching from the same point above the foot, to fit which each splint requires to be cut with a foot piece. From the commencement one assistant is charged with the duty of making extension from the foot, while another counter-extends from above. Reduction having been effected, the tendo Achillis, the instep, the ball of the great toe, and the proximate end of the fifth metatarsal bone being well padded with cotton wool, a dry bandage is applied from the root of the toes, over the heel and up the leg, with the precaution to reverse at the back and not over the crest of the tibia, where the ridges caused by reverses would be very liable to occasion painful pressure; the crest of the tibia may be additionally protected by a strip of cotton wool placed immediately over it; this is especially advisable when, from emaciation or deformity (e. g. rickety children), the crest is unduly prominent; the bandage is continued over the extended knee to a little below the middle of the thigh, care having been taken to pad with cotton wool the head of the fibula, the tuberosity of the tibia, the patella, and the tendons of the hamstring muscles. The surface of the bandage is now smeared uniformly with starch. . . . . At this stage the splints, previously softened by soaking in warm water, and smeared with starch on both surfaces, are applied to the limb; the back one should not reach further down than half an inch from the heel; but the foot pieces of the lateral ones require to be moulded so as to embrace the outer and inner edges of the foot respectively, and turn in to the sole. These three splints should not extend on to the thigh as far as the first bandage: care must be taken that they do not overlap anywhere, and that neither of the lateral ones reaches as far forward as the crest of the tibia: the assistant who holds them in position manipulates them so as to mould them accurately to the limb, while the surgeon fixes them by bandage applied with moderate and even pressure from below upwards; the apparatus is completed by starching the outside of the last bandage. As a preventative against displacement, so long as the apparatus is moist, a couple of dry pasteboard splints may be placed laterally."

So soon as dry, the bandages are cut along the front,—either with a pair of pocket scissors or with a button-pointed pliers

made for the purpose,—and in the middle line of the sole of the foot to admit of the limb being examined. The examination is effected by the surgeon turning down each side of the splint alternately, while an assistant holds the limb in firm contact with the other side. If the apparatus is found to press on any part, it is to be padded; if it be too loose, the edges are to be pared. It is then to be re-adjusted, and a bandage rolled over all, and starched externally. In a few hours the patient may get up and go about on crutches, slinging the foot in a bandage passed round his neck.

Mr. Gamgee insists upon extreme accuracy being observed in rolling the bandage next the skin, as neglect in this particular will cause œdema and vesications. We have found it an assistance when applying the *appareil* to moisten the bandage previously, and this practice has the further advantage of being cooling and grateful to the patient. Another important point is, that the joint above the seat of fracture must be fixed, and the muscles thereby hindered from displacing the fragments. Great merit is claimed for the apparatus in preventing shortening, owing to the mechanical impediment which is offered by its accurate adaptation to the eminences and depressions of the limb. This, no doubt, holds good where no great amount of effusion occurs before the bandages are applied; but we are not so sure that this advantage can be expected in the opposite condition; for, when absorption takes place, the apparatus will fit no longer, and mere paring of the edges anteriorly cannot enable the surgeon to bring the lateral inequalities to correspond with such accuracy as is necessary for the complete prevention of motion. It is in recommending the immediate application of the starch bandage in all classes of fracture that in our opinion Mr. Gamgee errs; we think he expects too much from his favourite *appareil* :—to quote his own words,

"We have next to consider the propriety of applying the starched apparatus when a broken limb is swollen in consequence of inflammation. In all such cases its application is advisable, provided the inflammatory action have not advanced to such a degree as to threaten the disorganization of the limb. It is easy to understand how, under certain circumstances, gradual pressure may relieve the pain of an inflamed part; and its probable efficiency in promoting the absorption of the effused plastic product is strictly in accordance with the established principles of surgery; moreover, by the pressure diminishing the caliber of at least the superficial vessels, it cannot but tend to moderate the afflux of blood; in other terms, to lessen the cause of inflammation, and its effect—*swelling.*

We confess we should shrink from applying powerful constriction to an entire limb in which any considerable amount of true inflammatory swelling was taking place. Pressure, under such circumstances, aggravates inflammation, and the admitted principles of surgery teach us to wait until nature has commenced the work of absorption before we apply it. So far from "moderating the afflux of blood," we believe that bandaging would have the effect of exciting the large blood-vessels to an amount of action sufficient to bring on rapidly a gangrenous congestion of the part, nor have we time to apply pressure as a "preventive of swelling" in the majority of such cases, even if it were wise to do so. Inflammatory effusion is generally the result of considerable violence, and is so rapid in its occurrence, that a few hours suffice to light it up to such an extent, that ever so slight pressure will be followed by suppuration or gangrene. For these reasons we agree with Sir G. Ballingall, that where effusion has taken place, or is likely to do so, it is better to wait the subsidence of inflammatory action before the application of the starch bandage. We must also except Colles' fracture of the radius from the list of those to which the *appareil* is applicable in the early stage. It would be mechanically impossible to apply it so as not to press the fragments of the radius towards the ulna, and produce deformity. The plain starched bandage may, however, be used with advantage in about the third week in place of splints.

The Second Chapter is devoted to the record of cases, among which will be found many of the simpler fractures successfully treated. The great advantages of the *appareil*, in an economical point of view, both to the patient and hospital, may be gathered from the fact of two patients who had sustained fracture of the tibia being in hospital only five days between them, instead of as many weeks each. A very oblique fracture of the femur, just above the condyles, also gives satisfactory results: the patient was able in nine weeks to bend his knee to a right angle, and had walked seven miles in one day. This is contrasted with Sir Astley Cooper's two cases, in both of which the attachment of the patella to the upper fragment caused great deformity and almost complete loss of motion in the joint. The apparatus is also well suited to fractured patella; by changing it once or twice in the course of treatment, approximation of the fragments can with greater certainty be effected. Mr. Gamgee also applies it to fracture of the neck of the femur. For the mode in which this is effected we must refer the reader to his treatise, the illustrations of which, good throughout, will

explain it more satisfactorily than pages of description. In cases of compound fracture, arrangement is made for dressing the wound by cutting a trap-door in the splint opposite to it.

In the Third Chapter are enumerated the superior merits of the *appareil immobile.* These consist in diminution of pain, in facilities of cleanliness, in abridgment of the period of confinement, and in economy both of the patient's and of the surgeon's time; in economy to hospital by cheapness of material, and by early discharge of patients; and lastly, in lessening the chances of deformity and (in the case of the aged especially) of death. These are great advantages; but we see no reason why they should not be obtained in those cases to which the *appareil* is suited. To military surgery it will prove a great boon; the material for its construction is cheap and light; and the rapidity with which an immovable case is provided for a fracture will often enable the surgeon to spare a limb which would formerly have been sacrificed. M. Seutin is said to have applied it to stumps; but no particulars are given of the mode of application or of the results. An interesting case is narrated from the practice of Baron Larrey. He sent a soldier, whose arm he had removed at the shoulder joint, from Moscow to Provence, on foot, after dressing the stump with an apparatus rendered immovable by white of egg. The dressings were not removed until his arrival at the end of the journey, when the stump was found perfectly healed. This case is, however, so plainly a fortunate accident that no rule of practice is sought to be established by it.

We were disappointed in the meagre character of the Chapter devoted to the subject of diseased joints; only one case is given, and there is no novelty in that, as the treatment of such affections by pasteboard moulds is common. Nothing is said of the use of the *appareil* in ununited fracture, an accident to which, of all others, it is peculiarly adapted. If constitutional causes are set aside, want of union will almost invariably be found to arise from motion of one or other of the fragments; hence its comparatively frequent occurrence in the upper part of the humerus, in the radius, and in the oblique fracture of the tibia, where the weight of the lower fragment combines with the action of the muscles on the upper to cause constant motion. Many, if not all, of these cases admit of cure by the starched bandage applied in the ordinary way without splints. Velpeau uses dextrine in place of starch, and, from the rapidity with which it dries, and its perfect inflexibility, it is well adapted for them; but the difficulties of cutting it forms a barrier to its use, when the limb requires to be inspected soon

after the application. In treating a very oblique fracture of the tibia lately, which had remained ununited for two months in spite of great care on the part of the attending surgeon, we found it sufficient to use three layers of bandage, the middle one being well soaked in starch; and, in six weeks' time, the patient returned with the apparatus as firm as possible, and, upon removing it, union was found to be complete. The tilting forward of the upper fragment, in these oblique fractures of the tibia, is attributed by Mr. Gamgee to the action of the quadriceps extensor cruris; as he has found that division of the tendo Achillis does not prevent it, and that, consequently, the gastrocnemii are not the cause. In the above case the bandage was not brought over the knee, and the quadriceps was thus left uncontrolled, yet the deformity disappeared, and on removal of the bandages the tibia was found perfectly even. Without denying that the muscles exert great power in displacing *both* fragments, we think that the main cause of displacement is to be sought in the weight of the foot and lower fragment, and the best remedy will be found in judiciously slinging the limb from a cradle during the drying of the starch bandage.

The Fifth Chapter contains further particulars of the history of the *appareil immobile*, and some of the opinions of its value and of its disadvantages.

Making allowance for the enthusiasm of Mr. Gamgee, as the pioneer in this country of an important improvement in surgical appliances, his book has our hearty commendation. The errors in it are those of excessive zeal, but these a little more practical experience will soon dissipate; and we feel assured that the author will meet his reward in seeing his favourite *appareil immobile* introduced into more general use.

Hand-book of Chemistry, Theoretical, Practical, and Technical. By F. A. Abel, and C. L. Bloxam; with a Preface by Dr. Hofmann. London: Churchill, 1854. 8vo, pp. 724.

A very great want to the English student of practical chemistry is supplied by the publication of this volume. Our language abounds in excellent works on theoretical chemistry; but since Dr. Reid's book had, from the rapid advancement made in the science within the last twenty years, become nearly obsolete, the laboratory student has been constantly at a loss for a similar aid which would embrace all the discoveries of our own time. Messrs. Abel and Bloxam, formerly distinguished students, and for some years assistants to Dr. Hofmann

in the Royal College of Chemistry, present in the book before us the combined results of their *practical* experience in such a form "as shall enable even those who can devote but a comparatively short period to the study of this necessary branch of an extended education, to acquire, with the least possible expenditure of time, a knowledge which will either suffice for the ordinary applications of chemistry to the useful arts, or will serve as a sound basis for the education of a professional chemist."

The book is divided into four parts. First, an introduction, which treats of specific gravity, definition of chemical terms, equivalents, affinity, nomenclature, and notation, and the phenomena relating to the physical conditions of bodies—for example, solution, crystallization, diffusion of gases, &c.

The second is devoted to a consideration of chemical manipulation, and contains a full, yet sufficiently concise, description of all the apparatus necessary for the laboratory, with directions as to the mode in which they are to be employed, and instructions for the formation of such as can be constructed by the manipulator: under the latter head the authors give two most practical sections on the use of the blow-pipe, and on glass-blowing. In the third part the reader is presented with a very complete outline of elementary chemistry, including the metals and non-metallic substances. The fourth and last part is entitled analytical chemistry; it contains directions for qualitative and quantitative analysis, with a description of the necessary apparatus and requisites, and a general view of analytic operations, with an account of special methods.

It would be quite foreign to the scope of this Journal to give an analytical review of this book, even if it were possible to do so; we must, therefore, content ourselves with speaking in the highest terms of both its spirit and execution, and commending it to all anxious to acquire a *practical* knowledge of one of the most important accessory branches of medical science.

Clinical Lectures on Pulmonary Consumption. By Theophilus Thompson, M. D., F. R. S., Physician to the Hospital for Consumption, &c. London: Churchill. 1854. 8vo, pp. 211.

The Pathology and Treatment of Pulmonary Tuberculosis, and on the Local Medication of Pharyngeal and Laryngeal Diseases frequently mistaken for, or associated with, Phthisis. By John Hughes Bennett, M.D., &c. Edinburgh: Sutherland and Knox. 1853. 8vo, pp. 142.

Inasmuch as the contents of the volumes before us have already appeared in different periodicals,—Dr. Thompson's being a reprint of lectures originally delivered at the Brompton Hospital for Consumption during the spring of 1851, and published in the Lancet for the same year; and Dr. Bennett having, in the pages of the Edinburgh Monthly Journal of Medical Science for 1850 and subsequently, either as original contributions or in the form of reviews, set forward his opinions,—it is scarcely requisite that we enter into a full analysis of those opinions or doctrines with which we have no doubt the profession is already perfectly familiar. Our object in the following observations shall rather be to inquire, if, now that they have assumed an independent form, they worthily contribute to the reputation of their authors, and are calculated to uphold the character of existing medical literature, as fairly representing our professional knowledge.

There is nothing which more truly demonstrates the character of medicine as a "science of observation," than a comparison of coincident writings on the same subject. One author is found to attach the greatest importance to some particular appearance which another scarcely notices; one book to warmly advocate opinions and doctrines, which another either altogegether denies, or but most feebly recognises. Yet, as the end of all such writing and the object of each author is presumed to be the same, viz., the more perfect recognition or treatment of disease; and as each generally offers proof of his special eligibility to afford rules for our guidance, founded on separate success in diagnosis or cure, we willingly encourage every effort in so good a cause, and gladly welcome each new book, as anticipating from its perusal some addition to the knowledge we possess.

When it is recollected that human life and human happiness are liable to be most materially influenced by the teaching of medical writers, it becomes a matter of solemn duty for every

practitioner who aspires to such distinction to carefully scrutinize the opinions he offers, lest he permit enthusiasm to so guide observation, that facts which militate against his particular conceptions be but feebly described; while it is a responsibility, which equally devolves on those to whom is intrusted the scrutiny of such writings, to impartially investigate their doctrines, and fairly estimate their merits, since much of uncertainty in practice, and scepticism in medicine, may be thereby anticipated.

Were we to enumerate those authors who have written on the subject of pulmonary tuberculosis or consumption, we should array a host of names that would astound many of our readers, from whom the inquiry might naturally proceed,—Whence has arisen the necessity for such a plurality of books, and in what respect do those writings differ? The answer to the first part of this question shall rest in our reply to the second, by an investigation of the two volumes now submitted to us for review.

In his Preface, Dr. Thompson, while disclaiming the adoption of any favourite theory, informs us that, "in the preparation of each lecture the first step was to collect and tabulate all the facts which the wards might happen to supply for the illustration of the particular topic under consideration." This method of forming an inference, is, we conceive, open to many objections, for it presumes an identity of general as well as special phenomena, which is opposed to our experience of disease. 'Remote and superficial generalities,' observes Lord Bacon, 'are no more aiding to practice than a universal map is to direct the way between London and York.' In like manner, we believe the accurate detail of the particular characters of an individual case, is of far greater value than the particular detail of the general characters of many cases. One method increases our number of practical truths; the other confirms the accuracy of nosological descriptions, the value of which it is scarcely requisite to enter on.

In his Introduction, Dr. Thompson proposes a new nomenclature for the sounds revealed by the stethoscope, and offers a tabular form to mark their situations and the diseases in which they occur. We really cannot see, and therefore cannot be expected to appreciate, the value of the simplification he sets forward. The terms "bubbling," "clicking," "crackling," are, when applied to thoracic acoustics, to our minds quite as mystical as their synonyms, "mucous ronchus," "humid crackling ronchus," "dry crackling ronchus;" and though Dr. Stokes may be blamed by the author for having sanctioned the use of the ambiguous

term, "muco-crepitant ronchus," we are so wedded to our own opinion as to consider that it is the very best term which the condition it is intended to signify would admit of, and, since these are the terms used by all writers on the subject, we believe that their alteration could not fail to be productive of the greatest inconvenience, if not disadvantage. Dr. Bennett has more modesty, for he declares in his Preface, "that having nothing to add to the many masterly works which treat of the symptomatology, morbid anatomy, and diagnosis of pulmonary tuberculosis, he will not enter into them further than may be necessary to evolve the principles on which he considers a correct treatment should be based," and thus leads us to anticipate that this very important part of his subject shall be the more carefully considered. In one work, we may, therefore, expect to find "The Deformed Transformed," in the other, "The play of Hamlet, with the part of the Prince omitted." Dr. Bennett does not, however, intend us to suppose that no novel suggestions had arisen in his mind, since he states that "having held the position of Pathologist to the Royal Infirmary of Edinburgh for five years, and having performed and recorded 2000 post-mortem examinations, gradually one great fact became impressed upon his mind, viz., that all organic diseases occasionally presented a tendency to spontaneous cure;" and adds—"In no organs were such appearances more common than in the lungs, and of no disease was evidence of a spontaneous cure more frequent than of pulmonary tuberculosis." As regards the first part of this discovery, we had in our simplicity conceived, that it was from the recognition of such a fact, the old motto confirmatory of the value of the "vis medicatrix naturæ" had arisen; and though it is true that many years ago Dr. Graves had observed, "It may be looked upon as established, that phthisis, like most other diseases, *does not always necessarily progress to a fatal termination*"[a]; and that Drs. Carswell, Clarke, Louis, and Williams, had also attested the same,—the lattter of whom, ten years previous to Dr. Bennett's appointment, had not only described the process of cure in a phthisical cavity, but also those causes which might prevent it; yet we were not, without Dr. Bennett's assurance, prepared to go to the full extent of asserting, that tubercle in the lung, when fully established, is not more formidable than the general run of diseases, or that the unaided system manifests towards it, as towards other lesions, an equal facility for accommodation or repair, by which its influence might be counteracted or its presence got

[a] Clinical Lectures, edited by Neligan, vol. ii. p. 113.

rid of; and even now, we would have wished, to make assurance doubly sure, Dr. Bennett had more fully furnished us with those positive grounds which had led him to such a conclusion as he advances in the second part of this discovery.

Dr. Thompson plunges at once "in medias res," and commences his first chapter by informing us that the original suggestion of a stethoscope is due to a certain Robert Hooke, an English surveyor, who lived about two centuries ago; but admits, that this by no means lessens the merit to which Laennec is entitled.

An interesting case is detailed in the early pages, regarded by the author as one of hydatids of the liver, which, by absorption and ulceration, found their way into the lungs, and were expectorated. Dr. Thompson attributes the origin of such growths to either hereditary liability, vegetable diet, or blows. We are not yet in a position to speak with confidence of the laws which influence the transmission of disease. That hydatids are associated with a special constitutional condition, the circumstances under which they are developed lead us to believe. Without altogether adopting Dr. Baron's views, that such are strumous growths in a primitive state, we are satisfied that the connexion between the occurrence of the entozoa and hydatids with the scrofulous habit as pointed out by Dr. Graves[a], is deserving of the closest attention. We question much if vegetable diet specially predisposes to their development, as our opportunity of studying the effect of such has been unusually extensive, and in a very large number of post-mortem examinations of the bodies of those whose diet was almost exclusively of that nature, have we failed to observe the undue manifestation of these appearances.

Proceeding further, we find the use of Dr. Sibson's or Dr. Quain's chest-measurers advocated, as determining the exact amount of the deficiency of the thoracic movements. The true value of such appliances has been already so fully canvassed in the pages of this Journal[b], that we will only observe, we consider them as dangerous instruments, in inexperienced hands leading to error, and at best of but little assistance to those possessing the sound use of eyes and ears.

Dr. Thompson maintains the close association of spasmodic asthma with chronic pulmonary disease. Dr. Black, in his able paper on "The Pathology of the Bronchio-Pulmonary Mucous Membrane," has, from histological observation, arrived at a similar conclusion, which has, however, but partially removed the difficulty, since the uncertain state of our know-

[b] *Op. cit.*, vol. ii. p. 90.

[a] Vol. xiv., p. 145.

ledge, as to the immediate existing cause of this affection, is sufficiently manifest in the character and diversity of the remedial agents set forward.

Dr. Thompson's second lecture is principally devoted to the consideration of hemoptysis; and, as Dr. Bennett has also entered on this subject, we shall endeavour to contrast their observations. Dr. Thompson justly considers hemoptysis as a very frequent, as well as "the most significant of any single symptom of phthisis," occurring in seventy-three per cent. of the cases admitted into hospital, and again refutes a supposition which we had considered as obsolete, viz., that hemoptysis is the cause of tubercle, and not the consequence of the phthisical condition. Regarding the cause of this symptom as compression or obliteration of the pulmonary veins by tuberculous deposit, which occasions an exudation of blood into the neighbouring bronchi, moderate hemoptysis is considered by Dr. Thompson rather as beneficial than alarming, since it prevents the stagnation of unhealthy blood, and thus tends to oppose the progress of tubercular disease, a supposition apparently warranted by the fact, that, however increased local irritation may be manifest previous to or pending the hemorrhage, subsequently, a period of comparative quiet and temporary suspension of prominent symptoms not unfrequently follows. This explanation (if correct) could only apply to an advanced stage of the disease; since, as Andral has pointed out, hemoptysis frequently precedes the tubercular deposit, or is at least manifest at such a period of its development as precludes the possibility of its resulting from the mechanical action to which Dr. Thompson attaches so much importance. Be this as it may, the practical deduction from the observation of facts is, that undue haste to arrest hemoptysis should be deprecated, and that, when treated, it should be by producing determination to other organs, rather than by employing direct astringents. When the hemoptysis is considerable, if it be of an active character, as indicated by full hard pulse, heat, and oppression under the sternum, and heaving of the diaphragm, cupping, or even bleeding may be requisite; in which suggestion of Dr. Thompson many eminent authorities agree[a]. Dr. Stokes[b], amongst others, considers a single moderate bleeding, followed by the local application of leeches, as the best means, which the experience of a great number of cases had supplied, for the controlling of this symptom. On this point, however, Dr. Bennett thus writes:—

[a] See our present Series, vol. ix. p. 355.
[b] Stokes on Diseases of Chest, p. 445.

"I consider that there is no fact better established in practical medicine than that a considerable amount of relief, consisting of less local pain, a more free respiration, and diminished febrile action, may frequently be seen to follow the use of moderate, general, or local bleeding. Indeed, the benefit is sometimes so marked as to induce their frequent repetition. But every one of the cases I have seen so treated have [has] terminated fatally."

This is a point respecting which, we conceive, it would be folly to fix an absolute rule, for all practical physicians, however they may agree with the theory of Dr. Bennett's views, must have met cases in which the serious question of life and death lay in the balance between the possibility of arresting an immediately fatal bleeding, and the probability of confirming the condition which had originated, or was associated with it. If we follow those directions which Dr. Thompson's large experience dictates, according to Dr. Bennett we weaken the powers of the economy, check the cell development in the coagulated exudation, delay the transformation through which it must pass before it can be absorbed, and thus lend additional stability to the disease it is our object to cure.

Dr. Thompson, if he but partially treats on this vitally important symptom, seeks not to mystify us, for he distinctly commits himself to specific statements, advocating in acute attacks the active treatment we have mentioned, and in those of a less formidable nature, the employment of anti-congestive and astringent remedies. Dr. Bennett, when, in his third chapter, disposing of this part of his subject in seventeen lines, while advising perfect quiet, and the avoidance of every kind of excitement, bodily and mental, adds: "Astringents have been recommended, especially acetate of lead and opium; but how these remedies can operate, I am at a loss to understand; and I have never seen a case in which their administration was unequivocally useful." Our experience must have been singularly fortunate, for we have not the slightest doubt of having met with many cases, in which, were it not for the employment of such remedies, there is every reason to believe fatal consequences must have ensued, that is, if we are at liberty to associate as cause and effect the administration of particular medicines, and the subsidence of those certain symptoms which it was intended by their exhibition to remove. Dr. Bennett should have left us wholly in the dark respecting the means whereby we might meet this symptom, had he not in page 71, when decrying depletion, as we have quoted, advised "the husbanding the patient's resources during the exacerbations and fever; simply favouring excretion by means of antimonials; then, on

their subsidence, once again cautiously administering nutritives in a manner we shall subsequently discuss. We wonder if Dr. Bennett has ever met with cases in which the exhibition of antimonials failed to fulfil those expectations, and the acute symptoms did not prove so amenable? After this doubt and difficulty on his part respecting the *rationale* of the action of astringents, as also his disapproval of the detraction of blood, we find in his notice of the chronic form of the disease, that "a seton or issue, a succession of blisters, tartar emetic ointment, and croton oil, are all beneficial, and may be used according to circumstances," as tending to favour absorption of the exudation already poured out. We are, however, at the same time again informed:—

"The application of leeches should be avoided, as it is not easy to see how abstracting a few ounces of blood from the thoracic integuments, which are furnished with blood from the mammary and intercostal arteries, can operate upon such vascular organs as the lungs, receiving their blood entirely from the pulmonary and bronchial arteries."

To this we would ask in reply—Is a remedy to be despised because we cannot explain its action? How does this topical counter-irritation act? How does it happen that the application of a seton or issue, a succession of blisters, tartar emetic ointment, and croton oil, are all beneficial? By what means is it, that an impression is thus made on organs having not only a distinct circulation, but inclosed by arches of bone, and invested by separate membranes?

"It is true," writes Dr. Bennett, "that a few leeches applied under the clavicle *often relieve certain symptoms;* but I have never been able to satisfy myself that they have ever been of *permanent* benefit; and *although I am far from saying that they are always injurious*, I have *occasionally* thought that the exposure of the person, the warm fomentations, and unpleasant trickling of blood, have increased rather than diminished the uneasiness of the patient."

What are we to infer from this very clear and consistent statement? That the relief of certain symptoms is to be thought lightly of, if not repudiated, because it is not of permanent benefit, even though it be not always of ultimate injury. That the administration of particular remedies is to be abandoned if we are unable to speak with confidence of the precise part they fulfil in the curative process. Happily for ourselves, we believe it is permitted that great practical good can be accomplished by the employment of means whose exact agency we are unable to explain. Were it otherwise, those observations

of Dr. Bennett should lead us to reject many of our most valuable agents; and since, in a number of painful and distressing affections, permanent benefit cannot be anticipated from the resources of our art, we should, did we act according to our interpretation of the foregoing, watch their progress with resignation, and do—nothing.

For our own part we may observe, in common with many experience has impressed us with this truth,—in divesting disease of its contingent suffering we not only delay the necessarily fatal issue, but worthily conduce to the honour of medicine by soothing and tranquillizing the patient.

In passive hemoptysis Dr. Thompson more particularly advocates the use of direct astringents, and having enumerated many, speaks of turpentine as "one of the most certain and suitable remedies in a majority of instances." The value of this medicine in "purpura hemorrhagica" was many years since impressed on the notice of the profession by Dr. Neligan[a], who more recently, in an essay in our pages on Hemorrhages[b], has afforded convincing proof of the advantage to be derived from the administration of those remedies, the secret of whose action is so inexplicable to Dr. Bennett.

Unlike Dr. Thompson, Dr. Bennett "begins at the beginning," and occupies the first chapter of his work by the microscopical examination of tubercle. Having detailed the appearance of tubercle-corpuscles, he declares his dissent from the assertions of Gulliver and Vogel as regards the presence of nucleated cells in tubercular matter, thus coinciding with the opinion of Lebert. Tubercles are regarded by Dr. Bennett as independent nuclei, formed slowly, having no tendency to produce cells before they break down into a molecular matter; Schroeder Van der Kolk also supposes them to be nuclei, but considers that they result from the disintegration of epithelial cells in the ultimate bronchi and air-vesicles, a view which seems to Dr. Bennett negatived by the fact that they occur in textures destitute of epithelium, as in the substance of the brain.

Tubercle has been made the subject of special analysis by so many high authorities, and such discrepancy of opinion has resulted from the investigation of those of equal reputation, that the conclusion which forces itself on the rational mind is,—exactness in the data on which their judgment has been founded has not been satisfactorily arrived at. The revelations of the

[a] Dublin Journal of Medical Science, First Series, vol. xxviii. p. 189.
[b] Dublin Quarterly Journal of Medical Science, vol. ix. p. 347.

microscope have determined certain appearances, but not those causes which conduce to them; it is in their estimation of the latter that those differences of opinion appear to chiefly rest. We allow there is nothing more fascinating than a successful theory by which to explain vital actions, yet at the same time we have no hesitation in affirming, that now more than ever is the physician required to be cautious in arriving at a positive conclusion. Histology and animal chemistry, in the ultimate analysis of morbid growths, have sought to explain the mystery of disease, and to solve the problem of death; that they have accomplished much, humanity with gratitude acknowledges; yet that very much remains to be done is too plainly demonstrated in the fatality still attendant on those diseases whose pathology they may have best contributed to establish.

The second section of this chapter is devoted to those considerations of the nature of tubercle which its histology suggests. "It can scarcely be doubted," writes Dr. Bennett, "that it is an exudation from the liquor sanguinis, but one which presents marked differences from the simple or inflammatory exudation, on the one hand, and the cancerous exudation on the other." For determining the position in the vital scale which tubercle should occupy, we read:

> "Taking, then, the products of simple inflammation (say pus) as a standard, we cannot fail to remark, that whilst the cell-development of tubercle is below, that of cancer is above, this standard. Of the three kinds of exudation, tubercle is the lowest, and cancer the highest, in the scale."

This comparison of the *cell-development* of tubercle with that of those other products appears to us as being rather at variance with the previous assertion, that the tubercular nuclei "had no tendency to produce cells previous to breaking down into a molecular matter."

Every kind of reasoning, writes Dr. Bennett, must lead to the conclusion, that these different changes and effects depend "on the inherent composition or constitution of the exudation itself. Now as the blood is dependent for its constitution on the results of the primary digestion in the alimentary canal on the one hand, and the secondary digestion in the tissues on the other, it must be evident to every physiologist that if it be the constitution of the blood which determines that of the exudation, the causes which produce this must be sought in those circumstances which operate on the composition of the former fluid." In other words, we may infer that the stomach and in-

testinal tube is the "fons et origo mali," which seems to us to be rather a "post hoc" style of reasoning.

We really do not wonder at the different members having in olden time rebelled against this organ, for, not content with being itself perpetually out of order, we have it here declared that, quite independent of its own private and particular disarrangements, it is also the cause of one-sixth of the deaths which annually occur,—that is, if we receive without question the theory or views thus set forward.

"The views now advanced," observes this author, "dispose of the disputes formerly so prevalent among pathologists as to the inflammatory or non-inflammatory nature of tubercle." We really did believe, to use the author's own words, to "any well-informed medical practitioner" little doubt on this point remained, and that it was generally admitted whatever influence the occurrence of inflammation might exercise in determining the deposit of tubercles, yet their development argued a condition in which the vital powers were below par, and opposed to the occurrence of inflammation, receiving the term in its ordinary signification.

As regards the condition of the system in which tubercle occurs, Dr. Graves, when thoracic diseases were much less understood than now, thus wrote:—"It is, I believe, a generally received opinion, that tubercles, by producing inflammation and suppuration, are the cause of phthisis. This I doubt, or even deny. I look on tubercular development and consumption as the consequences of that particular state of constitution which occasions what is falsely termed tubercular inflammation[a]." "Every form of consumption which has hitherto come under our notice is referable to one common origin, and this is that debilitated state of constitution which has been termed the scrofulous habit. One of the first tendencies of this habit is to the formation of tissues of an inferior degree of animalization, among which I class tubercles[b]." And again, when speaking of tubercles, the same distinguished writer observes, p. 93:—"I consider them as productions incapable of developing the phenomena of inflammation." "It will be seen from the sequel," writes Hasse, "that the production of tubercle is *not* dependent upon accidental conditions,—upon some occasional cause possible under all circumstances, as, for example, inflammation[c]." Louis, we thought, had confuted by numerical evidence the inflammatory origin of phthisis; while Dr. Cars-

[a] *Op. cit.*, vol. ii. p. 89. [b] *Op. cit.* p. 90.
[c] Hasse's Pathological Anatomy, p. 316.

well, when speaking of the fact that inflammation is not necessarily followed by the development of tubercle, as also that tubercles are found in organs whose functions have never been deranged, adds:—"Under such circumstances it would be absurd to ascribe the origin of tuberculous matter to inflammation[a]." Dr. Ancell, in his splendid work on this subject, has furnished ample details to confirm the foregoing opinions. While, therefore, we deny altogether the inflammatory nature of tubercles, which, in spite of this additional but by no means novel conclusion of Dr. Bennett, is still advocated by Schroeder vander Kolk, we must at the same time be careful not to lose sight of the extraordinary influence inflammation exercises in promoting their local development, the manner of which, as well as the reason why the lungs are the organs most frequently implicated, we conceive Dr. Graves has satisfactorily set forth. Yet no allusion is made to his writings, which, considering the close similarity to his views, those now put forward by Dr. Bennett present, we might reasonably have expected.

The nature of that change in the blood which communicates to the exudations from it those peculiar characters we denominate tubercular, is, according to Dr. Bennett, chiefly owing to the deficient assimilation of the nitrogenized particles of the food; while, consequent on an excess of acidity which exists in the alimentary canal, its albuminous constituents are rendered easily soluble, and at the same time the proper alkaline secretions, from their neutralization, are incapable of transforming the carbonaceous constituents of vegetable food into oil, or of so preparing fatty matters introduced into the system as will render them easily assimilable. The result of this is, an excess of albumen, and a deficiency of fatty matter in the blood, eventuating in exudations of an albuminous kind which are tubercle. The chief, we may say the necessary agent for the production of this chain of phenomena is the excess of acidity in the alimentary canal. In reply to a French critic who questioned such a simple solution of vital actions, and asked for the proof, Dr. Bennett observes:—"The proof, I thought, consisted in the *frequent* sour taste and acid eructations in phthisical cases;" and adds, that since this question, he has satisfied himself that "a marked difference exists in the amount of intestinal acidity, between the phthisical body and that affected with other lesions." Now, how many individuals are there who for years suffer most painfully from excess of

[a] Article, Tubercle, Encyc. Pract. Med.

acidity in the primæ viæ, and yet never show the slightest tendency to tuberculous disease? How many are there who undergo extreme emaciation from this cause, and never manifest the least indication of phthisis? There is no doubt "that," to use the words of Dr. Glover, "this is an easy explanation of great difficulties," and its simplicity must not rise in judgment against its adoption. But what is the determining power which ultimately so disposes of this fluid? We believe that this excess of acidity in the alimentary canal is the consequence and not the cause of tubercle; and though we seek not to deny that, as in other affections, a lesion arising in a disease may in its turn become an additional source by which it can be maintained, yet we are satisfied, that, in treating affections by the removal of their self-engendered causes, we make but one, it may be a most important, step towards their cure. Has not Dr. Bennett seen cases of tubercle in which wonderfully little emaciation was present, and cases of acute phthisis in which the mechanical, chemical, physical, and vital processes seemed to be simultaneously affected for the production of the disease? We do not seek to depreciate Dr. Bennett's labours as regards this ingenious theory, but, inasmuch as the operations of life seem at times wholly to disregard the regulations of matter, we conceive the vital assimilative force which exercises the supreme direction has not, in the primary changes which it undergoes, been sufficiently dwelt on.

The third section of this chapter commences by detailing the manner in which tubercular matter is deposited, and the mode by which tubercular ulcers heal, in which the views of the author confirm those already before the profession from other sources. To prove that tubercles may be arrested at an early period of their development when they are limited in extent, as also that cavities of a large size may heal, and leave even in the midst of a healthy lung unequivocal traces of their tubercular origin, a case is detailed which is considered as sufficient to convince the most sceptical. A man named John Keith, aged 50, died one hour after his admission into hospital: on examination after death, the apex of his right lung presented a remarkable cicatrix, varying from one to three fourths of an inch in breadth, and measuring about three inches in length. The pulmonary substance of both lungs was healthy, and each contained from five to seven encysted cretaceous concretions. The history of this case depends wholly on the recollection of a very respectable-looking and intelligent man, who nearly thirty years previously believed the deceased to have laboured under all the symptoms of a

deep decline, when his life was despaired of. A second case illustrates the advantage which results from the use of cod-liver oil, seen in the partial healing and contraction of two cavities in the left lung, while in the right lung cretaceous concretions, puckering, and incipient emphysema, were present. A third case is detailed,—an interesting example of the cadaveric appearances of a scrofulous lung, in which numerous cavities lined by fibrous membranes seemed to be continuous with the bronchi. From this case it is presumed that "cirrhosis" of the lung, so well described by Dr. Corrigan, is the result of tubercular excavations compressing the pulmonary structure,—a proposition the consideration of which the space at our disposal does not permit us to enter on. Reviewing these cases, Dr. Bennett thus proceeds:—

"What has been now stated must, I think, show that the arrestment of tubercular ulceration may take place in three ways:—first, by the gradual transformation of the exudation into cretaceous and calcareous concretions; second, by expectoration and absorption of the exudation, the collapse of the ulcerated walls, and formation of a cicatrix; third, by the ulcerated walls becoming covered with a smooth membrane, remaining open, and constituting chronic cavities, which have occasionally been mistaken for dilated bronchi."

Enlarging further on the curability of this disease, Dr. Bennett writes:—

"So deeply rooted, however, has been the opinion of the necessarily fatal nature of this disease, that the generality of practitioners have concluded that *because* phthisical cases recovered, that the disease was *not* phthisis; that is, they have rather distrusted their own diagnosis than ventured to oppose a dogma of general belief."

In reference to the foregoing, we may be permitted to observe, great caution must be exercised in determining the history of a case by a simple post-mortem appearance. That cavities in the lung will, under the most unfavourable circumstances, occasionally heal, Dr. Graves[a] affords six examples to prove. The means which nature adopts for such a purpose Dr. Ancell has much more fully stated. We quote the words of his reviewer[b] in our pages.

"The modes of spontaneous cure he (Mr. Ancell) enumerates are as follows:—Absorption; atrophy; in the case of miliary tubercles; cretifications, most frequent; sequestration, by means of an enveloping cyst; cicatrization, the cavity becoming fistulous; and the cavity becoming filled with a

[a] *Op. cit.*, vol. ii. p. 44. [b] Vol. xv. p. 117.

fibro-cartilaginous laminar deposit—with condensed cellular tissue—with cretaceous substance; and, lastly, transformation of tubercle into melanotic matter."

Dr. Williams, in a highly useful and perfectly impartial paper[a], has stated his experience of 400 cases, and set forward the practical advantages resulting from the use of the remedy Dr. Bennett so justly advocates. If, notwithstanding such cases and assurances, "the generality of practitioners" with which Dr. Bennett has been acquainted, continue sceptical (and we presume the author here speaks from his personal knowledge alone), we may pause to inquire, what is the use of medical writing?

To prove that imperfect digestion and assimilation is the true origin of phthisis, the fact is adduced, that neither scrofula nor tubercle originates amongst able-bodied men in the armies or fleets, whatever privations they may be exposed to,—that is, we presume, while they continue able-bodied. Contrasted with these fortunate men, others who follow sedentary employments in hospitals, factories, and such places, are stated to suffer in proportion; while in the higher classes, these diseases result from imperfect and insufficient lactation during infancy, or the irregular diet caused by carelessness or over-indulgence. It is well to have all uncertainty respecting scrofula and tubercle for ever set at rest by the following assurance:—

"No doubt, they may frequently be observed in persons whose parents or relatives have been similarly affected."

We fully accord to this admission. Dr. Bennett proceeds:—

"From facts of this kind it has been supposed that hereditary predisposition, a vitiated atmosphere, changeable temperature, certain occupations, humidity, particular localities, absence of light, and so on, predispose to phthisis."

The "so on" may, we presume, include deficiency of food and want of clothes. Now, the phrase "has been supposed" would lead us to infer, that for the future they are not to be so regarded. We fear that on this point we again so adhere to our old-fashioned notions, that we shall be classed amongst those hard to be convinced practitioners, with whom Dr. Bennett is already familiar, more particularly since Dr. Thompson observes: "There is no disease respecting which hereditary influence is better established," and subsequently corroborates by very con-

[a] London Journal of Medicine, January, 1849.

vincing proofs, the opinions of many writers, who have satisfied us that those causes which have been supposed as predisposing to this disease really are so. That Dr. Bennett considers they occasionally conduce to such an end, we infer from the following passage:—

"When they so operate, however, they invariably produce, in the first place, more or less disorder of the nutritive functions, and are associated with dyspepsia, or other signs of mal-assimilation of food."

To prove this, four examples out of many are brought forward:—The first, an unhappy countrywoman, aged 17, went to work as a field labourer in Scotland. In Ireland she lived on potatos and sweet milk, and once a week had fish or a little meat. The quantity was abundant. (This is of itself enough to render hers a most uncommon case.) In Scotland she did not fare so well, for there her diet was coarse oatmeal porridge and dry bread, with buttermilk, not tasting fish or meat once a month. Instead of returning home to the land of fish and meat, she bore up against the change for four years, and at the age of 21, with all the symptoms and signs of advanced phthisis, entered the Royal Infirmary. The next example is that of a strong, young thief, who, being imprisoned for three months, confined in a damp stone cell, and living on the ordinary prison fare (a Scotch prison), insensibly declines in his health. On being liberated, having no employment, and as a consequence, we presume, being occasionally hungry, he finds that his strength had diminished; he also becomes the victim of phthisis. The next case is that of a woman, aged 26 (of whose previous history we are not informed); she applies at the Infirmary, and is found to be labouring under phthisis. Her son, aged six years, is a perfect picture of health; and an infant at the breast, seven months old, is also quite healthy. The mother dies a year after; the children continue well, for the father having good wages was enabled to give them plenty of food. To complete these examples, the case of a young lady is stated. She was induced to leave the country, and to take charge of her brother's house in town. Deprivation of exercise, daily anxiety, and city air, induce dyspepsia, accompanied by cough and other symptoms of phthisis. She returns to the country, and regains her health. The author observes:—

"It is unnecessary to multiply cases of this description. The more they are examined into, the more do I feel persuaded it will appear that the causes of phthisis are not hereditary influences, vi-

tiated atmosphere, &c. &c., although *these may co-operate*, but almost invariably such circumstances as induced impoverished nutrition, resulting from an improper quantity, quality, or assimilation of food."

Surely Dr. Bennett does not mean to say that had he four thousand, rather than four such cases, they would afford him just ground for such an assertion, which, we do not hesitate to affirm, his own examples are far too imperfect to warrant. Nothing is stated of the Irish girl's hereditary predisposition, or the influence of those many causes conducing to the devolopment of the disease. We have no allusion to the mental and bodily depression of the starving vagrant lad. The fact of children of consumptives presenting the appearance of rude health argues nothing of their immunity from the disease. While so many causes conspired, in the fourth instance, to break up the young lady's health, we are not warranted in attaching supreme importance to any one in particular. That in many diseases, but more especially in phthisis, predisposing causes may, from their very continuance, become disposing, we have no doubt. That phthisical dyspepsia is the result, and not the cause, of the tuberculous condition, we consider the effects of treatment as well as the observation of the disease establishes. And though Sir James Clarke may have regarded derangement of the *primæ viæ* as amongst the most prominent of the premonitory symptoms of this affection,—the truth of which observation we seek not to deny,—we still believe that consumptive dyspepsia is a disease *per se*, which as certainly indicates the pre-existing, fully-established phthisical condition, manifested through deranged function of the abdominal viscera, as does cough that secondary condition of the lung which marks the progress of local organic change.

The second chapter of Dr. Bennett's work is headed "General treatment of pulmonary tuberculosis." Its success is stated to be proportionate to our power:—1st. Of improving the faulty nutrition, which is the cause of the exudation assuming a tubercular character; second, of favouring absorption of the exudation already poured out; and third, of preventing the recurrence of fresh exudations by careful attention to hygienic regulations. In the short space of twenty pages which this chapter occupies, these very important topics are discussed. Under the first indication, to prove that a mere increase in the amount or quality of the food often cause a larger quantity of fatty matter to be assimilated, allusion is made to the case of Keith, the man who died an hour after his admission into the infirmary. In the history of Keith's case there is nothing

to show that a greater quantity, or better quality, of food was present, since at the time he laboured under the symptoms of decline, he was lost sight of by his friends, who afterwards ascertained that he had become a parish schoolmaster in the West of Scotland, and that his health had been re-established; but whether he was appointed to this situation after the re-establishment of his health, of the period that elapsed between his disappearance and this appointment, or what occurred during his progress to the West,—of all this we are not informed; yet it is these circumstances which lend any value to the case.

Cod-liver oil is the remedy for this first indication; but we reserve our remarks on its use until we contrast Dr. Bennett's and Dr. Thompson's observations thereon.

The means set forward for carrying out the second indication we have already reviewed in our observations on hemoptysis. Under the third indication the question of climate is that mainly discussed. We are here favoured with a reprint of the author's review of Dr. Burgess on the Climate of Italy, taken from the thirty-fourth number of the "Monthly Journal of Medical Science." In this we find the following observations, p. 73:—

> "As a general rule, every local practitioner speaks highly of the superior merits of his own place of residence. He is ready to give you a list of the most extraordinary recoveries. He instances the cases of Lord this and Lady that, who, on their arrival, were in the worst possible condition, and who, during their sojourn in his locality, even surprised *him* by their rapid recovery. In short, when listening to those accounts, we feel astonished that any case of phthisis should die, did not all such practitioners, in reply to a straightforward question, acknowledge that deaths, notwithstanding, were very common, and that, after all, those remarkable cases were the exception, and not the rule."

Dr. Bennett's experience of his professional brethren must have been most unfortunate. For our own part we protest against this perpetuation of scandal, for, while physicians occupy the position in society of educated gentlemen, we consider it is neither generous nor just that they should, by so sweeping an assertion, be set down as so many equivocators, on whom the public can scarcely be expected to repose any confidence, since, by a professional brother, they are thus stigmatized, and declared to be so indifferent to truth.

The third chapter in Dr. Bennett's work purports to be devoted to a consideration of the special treatment of this disease. The important topics of cough and expectoration, loss of appetite and anorexia nausea and vomiting, diarrhœa,

hemoptysis, sweating, febrile symptoms, debility, with despondency and anxiety, are each considered under distinct heads; and the whole included within the space of not quite *seven pages*, which, of itself, sufficiently indicates the minuteness with which they are investigated, as well as the care that has been bestowed on their discussion.

We are told—"The accumulation of the sputum in the bronchial tubes is an exciter of cough; and hence the latter symptom is often best combated by those means which diminish the amount of sputum. When, on the other hand, the cough is dry, those remedies should be used which diminish the sensibility of the nerves." It becomes, however, a struggle between the stomach and lungs, "since nauseating mixtures are the worst treatment that can be employed;" for we read—"There is no point which experience has rendered me more certain of than that, however these symptoms may be palliated by cough and anodyne remedies, the stomach is thereby rendered intolerant of food, and the curative tendency of the disease impeded." Cod-liver oil and good nourishment are the means to be employed: if they succeed, the cough and expectoration spontaneously cease; but if they should fail, why then the author gives no directions!

The other sections are much on a par with this. For loss of appetite and anorexia a stimulant stomachic mixture and nicely cooked food is to be tried. The nausea and vomiting, it is possible, may depend on the medicaments or cough. If on the former, they are to be suspended; if on the latter, "those remedies advised for that symptom should be given:" yet, on carefully reading the thirty-five lines in which that symptom is treated of, we are still unable to discover what the remedy alluded to is, unless it be that when the cough is accompanied by expectoration we are to give cod-liver oil,—in our mind not the best means of checking nausea,—or, should the cough be dry, to employ counter-irritation in the manner already alluded to. Diarrhœa and hemoptysis each receive seventeen lines. The first is regarded as a very common symptom throughout the whole progress of phthisis; astringents are recommended for its cure. Of hemoptysis we have already written. Sweating is considered as a symptom of weakness, and therefore as a common though by no means a special one in phthisis. Febrile symptoms, debility, and despondency, are set down as not unfrequent accompaniments, which it is impossible for the careful practitioner to avoid noticing.

This chapter concludes with the detail of ten cases, some of which had occurred in the author's practice, and others

which came under his passing observation: some noted with great, others with less accuracy; some in which the conclusions were satisfactorily established; others in which the terminations were unknown. All, however, conspire to the one end,—to establish the value of cod-liver oil as a remedy, and would, were such at the present day required, afford to the profession great confidence in its use. These examples are brought forward to show the other circumstances it will be requisite to attend to, with a view of rendering cod-liver oil of permanent advantage.

"It is only by thus studying individual examples of the disease, and observing the numerous and varied combinations of symptoms and indications that each presents, that the special treatment of phthisis, and the difficulties the practitioner has to combat, can in any way be understood."

We commenced our observations by a proposition somewhat similar, and with this corroborating quotation from Dr. Bennett's book, we again return to our notice of that of Dr. Thompson.

Dr. Thompson's third lecture is specially devoted to the subject of phthisical expectoration; where its varieties in character, and the stages of the disease they indicate, are described. He considers the expectoration of bronchial polypi, or fibrinous moulds, as of rather rare occurrence, which led us to anticipate that the writings of Dublin physicians on this subject would at least have been recognised. "I do not think," observes Dr. Thompson, "that these bronchial concretions have any relation to phthisis, or that hemoptysis is a necessary element." On this point, Dr. Black, while giving it as his opinion that "plastic bronchitis may or may not be connected with a particular diathesis[a]," at the same time describes a variety occurring in phthisis, and points out the means of diagnosis between it and that which results from simple bronchitis. It is therefore not requisite that we further investigate its association with hemoptysis, for unless it be proved that this symptom is essential for their formation, the fact of their being present where no hemoptysis has taken place argues nothing against the greater tendency to such, which the occurrence of hemorrhage engenders.

In Lecture IV. Dr. Thompson offers many practical observations respecting the pulse of phthisical patients, and concludes that the presence of tubercle modifies its usual sensitiveness to change of posture, in a manner analogous to that de-

[a] Black, Pathology of the Bronchio-Mucous Membrane, p. 70.

scribed by Dr. Graves, who observed a similar phenomenon to accompany certain conditions of the heart. Lectures v. and vi. are occupied by the consideration of cod-liver oil and other oils, to which we shall presently refer. Lecture vii. treats of the condition of the urine. Lecture viii. of the early stethoscopic signs of consumption, in which prolongation of the expiratory murmur is particularly dwelt on; while in Lecture ix. the occurrence of interrupted, jerking, or wavy inspiration, a modification of the "inspiration entrecoupée" of Laennec, "inspiration saccadée" of Fournet; or "jerking inspiration" of some English writers, is regarded by Dr. Thompson as distinctly demonstrative of the commencement of this disease. These several lectures offer to the student many practical suggestions for the recognition of morbid action, while the analytical and statistical Tables they contain prove that considerable care has been expended on their preparation, and lead us to believe that observation rather than theory has dictated their contents In Lecture x. Dr. Thompson brings prominently under our notice the consideration of what he terms the "gingival margin," or a mark at the reflected edge of the gums, usually deeper in colour than the adjoining surface, and producing a festooned appearance by the accuracy with which it corresponds with the curve of the gingival border, which mark, in some patients, is a mere streak; in others, a margin sometimes more than a line in breadth. In the most decided cases this margin is of a vermilion tint, inclining to lake. A coloured engraving of the appearance is annexed to the work, which at once impresses us with the characters it is intended to convey. Dr. Thompson is "satisfied of its existence in a very large proportion of cases" of phthisis. It is more frequently witnessed in men, and its absence amongst such is therefore a favourable indication, while its presence in women is almost conclusive evidence of the tubercular element in the blood.

The hypothesis Dr. Thompson advances in explanation of this appearance relates partly to matter of fact, partly to matter of opinion, the matter of fact being:—

> "That the margin has been found broadest and deepest in tint, and most extended as respects the number of teeth encircled, in cases where diarrhœa or other symptoms indicated the existence of a state of erethism of the intestinal mucous membrane."

The matter of opinion resting in the views of some eminent pathologists, who believe that blood affected with tuberculosis has a peculiar affinity for oxygen. Now, did this sign depend on secondary congestion at the reflected edges of the gums, it

would be of little value, as under such circumstances the nature of the case could scarcely be doubted, while regarding it as a proof of abnormal tubercular susceptibility of the circulating fluid to atmospheric influence, its presence will at least lead to a closer scrutiny of those other indications which coincidently mark the earliest stages of this disease.

In the advantages to be derived from the administration of cod-liver oil both authors agree. Dr. Thompson considers that one mode of its action is through an influence exerted on the proportion of red corpuscles. Dr. Bennett, that it supplies fatty particles to combine with the excess of albumen which exists in the nutritive chyme, and so affords materials for the formation of healthy chyle, whence the blood is formed. If we limit the acknowledged efficacy of this medicine to any one of its constituents, an inquiry arises as to whether this exhibition of this constituent, when isolated, is attended with equal benefit. If it be so, animal oils in general should answer equally well, and Dr. Thomson leads us to believe as much, since he has found neat's-foot oil to accomplish all that could be desired with some; and to agree better with others, than the remedy of which Dr. Bennett thus writes: "The universal result of experience is, that no substance hitherto known is so easily tolerated by the stomach, and is of such general application as an analeptic in tubercular diseases." Dr. Thompson is of opinion that there is no essential difference of virtue in any of the fish oils; that neat's-foot oil, differing only in aptitude for assimilation, is to be regarded not so much as an equivalent as a rival to the cod-liver oil; while in another passage he informs us:—

> "Amongst the patients to whom cocoa-nut oil was given, there were some instances of arrested phthisis, as decided as any I have been accustomed to attribute to the use of cod-liver oil, over which it possesses advantages in reference to economy and palatableness."

This statement of the efficacy of cocoa-nut oil is, it appears, founded on but a limited experience, and we shall anxiously look forward to the results of additional observation, inasmuch as the question it involves is one of the very deepest practical importance and interest.

We have already entered so closely into a detail of the separate views of both authors, that our remarks on the present subject must be brief, more particularly as our pages[a] contain a full review of the knowledge we possess on the administration of this remedy.

[a] Vol. ix., p. 412.

Admitting it as a fact that certain chemico-pathological conditions exist, indicating a particular constitutional tendency, and allowing that an agent capable of effecting particular changes is within our reach, a question arises as to whether we are warranted in asserting that we therefore possess a specific. Before we reply, it is essential we be fully competent to estimate those causes which may modify the action of this agent, as also that we truly weigh those means within our reach of directing their operations; for, wanting this, in the living laboratory of the human body, we cannot satisfy ourselves of uniformity in our experiments.

Tracing the history of disease, we become fully impressed with the apparent anomaly, that many remedial agents, the nature of whose action we are least able to explain, have continued to occupy the foremost rank in our curative means, as being those in which our greatest confidence is placed. The reason of this we conceive to rest in the closer study of the vital rather than physical phenomena which the application of such remedies demands. Much consideration has led us to believe it is a narrow and restricted view in medicine, which finds in every disease a chemical or mechanical change adequate for its explanation, to the exclusion of those mysterious influences which conduce to their formation, leaving them frequently as the known effect of unknown causes, or the single result of many causes. May we not example the estimation in which bark, mercury, arsenic, and other medicines are held, and ask are they the less esteemed because the *rationale* of the specific influence which they exercise is unknown?

Dr. Thompson appears to us, in his exhibition of cod-liver oil, to have been judiciously regulated by coincident circumstances, and to have derived the greatest benefit from the employment of collateral means. His observations and directions respecting its use may, for practical truth, be depended on.

To Dr. Bennett we accord the fullest credit of having introduced and successfully advocated a most—we might add *the most*—valuable remedy. It has on this account been to us a source of pain and disappointment that a volume bearing his signature, and purporting to treat of a disease he is so competent to have entered on both fully and well, should have proved so imperfect and unsatisfactory, affording the student but little guide in those concomitant difficulties which are so embarrassing and which so perpetually arise, and at best but confirming facts of which we cannot believe any reasonable physician entertained a doubt. The truth is, Mr. Ancell's recent volume, containing a great mass of facts, clearly and justly rea-

soned on, led us to anticipate a work of a different class; for, in the existing state of medical science, the profession has a right to demand that its literature be respected, and that, in treating of a subject to which such clear, impartial, and truly practical attention has been given by many authors, the researches of contemporaneous labourers should be at least acknowledged.

An Expository Lexicon of the Terms, Ancient and Modern, in Medical and General Science; including a Complete Medical and Medico-Legal Vocabulary, and presenting the correct Pronunciation, Derivation, Definition, and Application of the Names, Analogues, Synonymes, and Phrases (in English, Latin, Greek, French, and German), connected with Medicine, and employed in Anatomy, Astronomy, Botany, Chemistry, &c. By R. G. Mayne, M. D., Surgeon to the Leeds Lock Hospital. London: Churchill. 1853. Part I. 8vo, pp. 152.

We have transcribed the greater part of the lengthy title prefixed to Dr. Mayne's work, because by so doing we shall best acquaint our readers with the design of his laborious undertaking. It is evident that such a volume as he promises must, if well done, be one of vast utility and importance to all engaged in medical literature, whether as readers or as writers; and, so far as the part at present published goes, it appears to us to be most ably and correctly compiled. Some idea of its copiousness may be formed when we state that, according to a rough calculation we have made, the letter "A" alone contains about 3000 headings, and the explanations appended to each term are not mere definitions, but in most instances include much descriptive and valuable information. It is proposed to complete the work in six quarterly parts, to be published at an extremely moderate price.

Plates of the Brain, in Explanation of the Physical Faculties of the Nervous System. By Joseph Swan. London: Longmans. 1853. 4to, pp. 67, and 22 plates.

The difficulty of ascertaining the proper structure of many parts of the cerebro-spinal axis, and the obscurity which still attends several of its functions, render every attempt to throw

additional light on this intricate subject interesting to the philosophical anatomist and pathologist.

The principal object of Mr. Swan's work has been the explanation of those parts which minister to what he designates as the leading physical faculties of the nervous system; the faculties, namely, of sensation, and of voluntary and involuntary motion. The arrangements found in man are stated to have been confirmed by the examination of corresponding parts in several animals, and their physiological bearing to have been substantiated by defining particularly the origins of nerves, and by tracing their distribution in organs whose functions are familiarily known. His investigations point out an especial centre for each leading faculty, and appropriate convolutions in a particular locality, and show that one-half of the larger portion of the fifth nerve belongs to the sensitive faculty, and the other half to the involuntary; and that the glosso-pharyngeal nerve and par vagum belong to the involuntary.

In his dissections Mr. Swan has employed brains, a large portion of the interior of which was exposed by removal of the exterior parts, and which were then hardened by immersion in alcohol for two or more days, according to the size of the part. By commencing early, the gray and white substances could be distinguished, and the gray could be removed for showing successfully the course of the white fibres. A large spear-pointed couching needle, rather blunt, was found to be the most convenient instrument, for by pressing it gently on a part it made the course of the fibres apparent, and was also sufficient for removing the surrounding matter. A smaller couching needle, also blunt, was used in contracted cavities, and a sharper one when a clearer division was required. A scalpel, with a very thin blade, was found to make extensive sections more satisfactorily than an instrument of larger dimensions, and its thin handle with rounded corners proved very useful for separating the epithelium, and clearing surfaces of loose particles. The dissections are stated to have required much time and labour.

Of the gray particles Mr. Swan says, that—

"When separated from each other they appear globular or angular, and varying in size; they probably form separate organs, and are encircled by belts of fine filaments of pia mater, and are thus placed in open cells. They are copiously supplied with blood, and possess an exciting influence. Their molecular form allows them to be aggregated in larger or smaller quantities, but makes them low conductors of impulses.

"Recent medullary matter," he remarks, "is composed of slender, semi-transparent filaments, which communicate in forming

meshes. It is less copiously supplied with blood than the gray. It appears in points at its approach to the gray, and each point becomes connected with a congeries, and not with a single gray particle.

"One kind of matter would not suffice for the varied powers of the nervous centres. The gray might allow some communication of impulses between its particles, but they would be of a peculiar kind, and not proper for forming combinations with the organs of the body. White alone, on the contrary, would be so capable of impression, that, however it might be modified by intricately arranged fibres, it would not suffice for more than the very simple nervous system of the lowest animals. A primary or superior power was therefore required, as in the gray matter, and a secondary or conducting one, as in the white; both, however, being capable of forming combinations with each other; so that, by varied proportions and forms of arrangement, not only subordinate centres, but agreeable and proper means of communication for allowing a co-operation with the intellect, may be produced."

The latter part of the last sentence seems to us to be badly expressed, and its meaning obscure. Mr. Swan, in his description of the forms of the gray particles, omits mention of the caudate variety, which is found in some of the most important nervous centres. We are not sure that we understand exactly the meaning of the term "exciting influence" which Mr. Swan applies to the gray particles. We conceive that they, when combined with the white fibres so as to form nervous centres, are as frequently the recipients of impressions as the sources whence impressions emanate. Every act of sensation or perception by an individual implies that an influence has been communicated to the perceptive organ, inducing in it a peculiar condition, probably a state of excitement, which is by a general law associated with the fact of mental sensation or perception. In every case of simple reflex action the nervous centres, with which the afferent nerves communicate, are the recipients of the impressions conveyed by these nerves, and are caused by them to assume a condition which is attended with the propagation from those centres along the efferent nerves of other impressions calculated to produce suitable actions, muscular or others, in certain organs. We conceive, therefore, that the power of *being excited*, or an excitable power, if we may so call it, is as inherent a quality, and as important a one in the gray particles, or in those combinations of them with white fibres which form the nervous centres, as the "exciting influence," and that, in fact, the one is in most instances the attendant of the other.

Mr. Swan proceeds to say:—

"The convoluted surface of each hemisphere of the brain, composed of innumerable gray particles in a continuous stratum, seems qualified for containing a uniform agent, and constituting the sensory for the manifestation of intellect. Three distinct faculties are also perfected in the sensory, as the sensitive, the voluntary, and the involuntary. Each faculty is peculiarly constructed for the development of its powers, and for forming a proper connexion with the sensory and the organs of the body. Each hemisphere contains eminences for enlarging the power of the faculties, and for harmonizing some peculiar properties with the capacity of the intellect and the modified functions of the organs of the body. Tracts are required for connecting the sensory with the oblong and spinal medulla, and for forming combinations between different regions for complex purposes."

By the "convoluted surface" we suppose is meant the substance of the convolutions, as a surface seems ill qualified for containing an agent of any kind, whether uniform or otherwise; and we do not suppose that the alleged composition of this surface, "innumerable gray particles in a continuous stratum," is intended to exclude the innumerable portions of fibrous substance which form an essential part of its composition. We object to Mr. Swan's employment of the word "faculty," as designating an organ. Faculty means power, the function of an organ, but not the organ itself. When he says that each faculty is peculiarly constructed for the development of its powers, he might with equal propriety say that each power is peculiarly constructed for the development of its faculties. It is only in this new and improper acceptation of the word faculty, as the organ of a function, that the term "physical" can be intelligibly applied to the sensitive and voluntary faculties, unless by one who, denying or doubting the existence of a mental agent, is disposed to regard all the properties commonly called mental, as functions of the nervous system. Mr. Swan does not appear to hold this view, as he elsewhere speaks of the intellect as exercising an independent action.

Mr. Swan says,

"The surface of the brain is nearly smooth in the lower class of animals, and in some of the smaller examples of mammalia: in many of the largest of this class it has narrower and more numerous convolutions, and broader and fewer in others."

Mr. Swan thinks it probable

"That the gray matter of the broad kind, combined in a thick stratum, has higher powers than an equal quantity of the thinner

of the narrow spread over a large surface. The thicker the stratum of gray matter covering them, the more copious are their accompanying capillary vessels, and the more liable are they to assume a high degree of activity whenever they are excited.

"Numerous narrow convolutions allow a more extensive envelopment of the gray matter by the pia mater, and a much thinner distribution of capillaries. They favour a more equable and continuous circulation, without much change from excitement to depression, except on some occasional but very strong impulses. They promote an almost unceasing activity and wakefulness necessary for the support of many animals, especially the larger kinds of herbivorous ones. As a great bulk of brain is liable to disorder or injury in the exercise of large animals, broad convolutions coincide with a great elasticity and lightness of tread, and numerous narrow ones with heavy and violent motions."

Many of the preceding conclusions appear to us to be unsupported by sufficient proofs, and in reference to the last sentence we would observe that the brain of the Cetacea is remarkable for the number and narrowness of the convolutions, while their movements in a liquid such as they inhabit would seem to exempt them from those violent shocks to which the larger and heavier land mammalia are subject, the convolutions of whose brains are by no means so narrow nor so numerous as those of the cetacea.

In his description of the physical faculties of the nervous system Mr. Swan observes:—

"On dividing the oblong medulla in different directions, it seems as if the parts composing it are so intimately combined that they cannot act separately. When, however, each part is carefully traced to or from the brain, it exhibits a proper character, from which it derives peculiar qualities. . . . The oblong medulla has posteriorly on its central part the posterior pyramidal bodies, and the surface extending upwards from them is the floor of the fourth ventricle, constituting the continuation of the sensitive tract, and giving origin to the sensitive nerves. On its anterior central part the anterior pyramidal bodies are placed; these give origin to motive nerves, and form the continuation of the voluntary tracts. In the middle surface, between the sensitive and voluntary tracts, the involuntary tract is placed: it resembles a large ganglion, and forms a case containing cells of interwoven gray and white matter. It gives origin to nerves especially concerned in vital involuntary functions. Besides the preceding parts, there are the restiform bodies, situated laterally, and, between these and the anterior pyramidal, the olivary bodies."

He traces the tracts from the oblong medulla in the following manner:—

"From the posterior pyramidal bodies in man the sensitive tract extends to the floor of the fourth ventricle. It is continued upwards at the base of the quadrigeminal bodies, and forms a thick cord, and assumes some appearance of a ganglion just before the geniculate bodies, and behind the posterior commissure it passes outwardly across the posterior margin of the thalamus, underneath [above] the optic tract, and posteriorly to the involuntary tract. It expands underneath the epithelium lining the ventricle. Numerous fibres, the anterior of which are the largest, spread out in ascending to pass through apertures at the outer side of the great commissure to their appropriate convolutions situated on the outer side of the summit of the brain. There is a slight difference in the direction of the fibres: some of them pass to the surface of the posterior horn underneath the epithelium, and others on the surface of the inferior horn, as it winds round the outer margin of the crus of the brain. Some of the deeper fibres become combined with the convolutions bordering on the inferior horn. The more superficial fibres spread immediately beneath the epithelium, are of a finer texture, and are connected with nearly the whole length of the optic tract, and with the roots of the olfactory nerve. The sensitive tract below the quadrigeminal bodies becomes more flattened and less thick. Posteriorly to the annular tubercle it gives origin to one half of the larger portion of the fifth nerve; and a little lower, at the side of the fourth ventricle, it gives origin to the auditory nerve. From the posterior pyramidal bodies it is extended on the posterior surface of the spinal cord.

"Each anterior pyramidal body in man represents a voluntary tract, and after forming combinations in the annular tubercle with layers of the inferior pedicle of the cerebellum, becomes a crus of the brain. On entering the hemisphere, it appears as if the greater portion of it were immediately separated into innumerable threads, radiating freely amongst the gray matter in the internal oval receptacle, which forms the base of the striated body. The anterior and larger portion of it spreads out beneath the gray matter of the surface of the striated body, to be combined with the inner attached side of the great commissure, and sends off tracts to be covered with gray matter for forming the convolutions of the anterior and median side of the hemisphere. The second portion of the crus, which is less than the first, and the third, which is the least, after forming some combinations with the more exterior portion of the gray matter, becomes inserted into a perpendicular stratum of white matter, which forms the partition between the internal and external oval receptacles. The more central tract of this partition is very thin, and concave internally; its upper margin is thick, and forms the upper boundary of the oval receptacles; the under margin is less thick, and forms the under boundary of the oval receptacle; and both are extended backwards into the large caudiform process. The external oval receptacle resembles the internal one, but acquires wider dimensions in approaching the surface of the hemisphere, and

has several low convolutions placed in it, which are described as forming an island in the fissure of Sylvius. White tracts enter these low convolutions anteriorly from the anterior descending portion of the upper margin, and posteriorly from the under margin of the external oval receptacle. The upper margin of the internal oval receptacle, as well as that of the external one, becomes combined with the outer attached side of the great commissure, and sends off tracts to be covered with gray matter for forming the convolutions on the outer and upper and anterior surface of the hemisphere. The under margin of the internal oval receptacle is especially connected with the second division of the crus, and sends a large tract to the inferior convolutions of the inner and inferior portion of the anterior lobe. The caudiform process communicates with the posterior wall of the great commissure, and sends large tracts downwards and forwards to constitute the inferior margin of the external oval receptacle, and give off smaller tracts, to be covered with gray, for forming the convolutions on the surface of the middle lobe. The caudiform process also sends off tracts on the median side, to be covered with gray, for forming the convolutions on the inner surface of the posterior lobe, and other tracts outwardly, to be covered with gray for forming the outer convolutions of the posterior lobe.

"Each half of the involuntary tract in man begins at the ring on the inner side of the thalamus, and extends backwards through the upper or posterior surface of the corresponding crus of the brain; it is separated from its fellow by the sides of the passage from the third to the fourth ventricle. The ring, which is very distinct, is much smaller in proportion to the thalamus, and the soft commissure does not pass through it as in animals. The ring lies underneath the epithelium, at the inner side of the thalamus, between the posterior commissure above and the posterior part of the mamillary eminence below. A large bundle of fibres, originating from this ring, is conducted across the thalamus and the narrow end of the striated body, between the sensitive and voluntary tracts. It passes upwards between the fibres at the outer margin of the great commissure, and terminates in a convolution placed at the outer side of the summit of the brain towards the posterior part of the middle lobe. There does not appear to be any communication of the tract of each side through the great commissure, but they are combined in the oblong medulla at the lower parts of the crura near the annular tubercle, and placed between the voluntary tract anteriorly, and the sensitive posteriorly. Near the lower end of the annular tubercle it becomes expanded, laterally, in giving origin to one half of the larger portion of the fifth nerve. At the lower margin of the annular tubercle the origin of the auditory nerve forms a slight connexion with its posterior surface; it then becomes expanded in a broad and thick heart-shaped ganglion, the base being uppermost, and, after the removal of the anterior pyramidal, the olivary, and restiform bodies, the glosso-pharyngeal nerve and par vagum [pneumo-gastric] are seen firmly attached to it, and taking their principal origin from it.

At the bottom of the oblong medulla the apex of this heart-shaped ganglion terminates in the continuation of the tract, which is extended throughout the spinal cord at the bottom of the deep anterior fissure, and becomes combined with both the anterior and posterior quarters of the cord."

Mr. Swan states that he has found in several mammalia an arrangement of the tracts closely resembling that in man, more especially of the sensitive and voluntary. The involuntary tract presents some differences, but none of any importance. The lithographic plates, which are very well executed, represent the progressive steps of the intricate dissections required to display the anatomical parts above recorded: the first fourteen being appropriated to the human brain, and the remaining eight to those of the horse and ox.

The different tracts, and their ramifications, are represented with a distinctness of outline and completeness of isolation which would appear incredible to those accustomed only to the ordinary dissection of the brain. Mr. Swan's long experience and well-known ability as an investigator of the nervous system, are a guarantee to the anatomical portion of the profession of the accuracy of his illustrations. We feel, however, that further examination is necessary to enable us to pronounce with certainty on the correctness of his views. On the assumption that Mr. Swan's representations are free from error, we feel bound to say, that he is deserving of high praise for the labour and skill which he has employed in a most difficult investigation, and for the clear views which he has been thus enabled to afford of anatomical relations hitherto obscure.

"The sensitive tract," he says, "in its ascent from the spinal cord is connected with the auditory nerve, and half of the larger portion of the fifth; with the quadrigeminal and geniculate bodies, and with the optic tract through the fibres spread on the descending horn of the lateral ventricle, ... some of which reach also to the roots of the olfactory nerves. It thus communicates with a portion of all the nerves of the senses, so that every special sense partakes in some degree of common sensation, and sympathizes with the rest, and produces a feeling of integrity, even when one or more of the organs is deficient or mutilated."

We do not clearly understand the last lines of the foregoing paragraph, and we have to observe that Mr. Swan here, and on another occasion, speaks of the part still called by some the olfactory nerve, as if it were really the nerve of smell, and not that part of the brain, the olfactory bulb or ganglion, whence the olfactory nerves arise.

Again, he says:—

"The involuntary tract is the source of a peculiar perceptive and irritable power, manifested in the organs its nerves supply. Any moderate impulse is confined to the organ and its nerves; a more enduring one gradually and almost imperceptibly modifies the activity of the muscles subservient to it, either through the nerves in connexion with it, or through the convolutions, until a state agreeable to its perceptions is restored.

"The few nerves given off from the involuntary tract perform very extensive and complex functions. Through the half of the larger portion of the fifth nerve, originating from it, it combines the nose and mouth and their appendages, and allows the local muscles to be excited either alone or in concert with other nerves and organs under its influence, as in taking food, and especially in sucking and in respiratory functions. Through the glosso-pharyngeal nerve the back of the tongue and fauces are excited in swallowing; through the par vagum [pneumogastric], in concert with the glosso-pharyngeal nerve, the pharynx, the œsophagus, and stomach, have their powers exercised. Through the extension of the involuntary tract into the spinal cord, and its probable connexion with some of the roots of the spinal nerves, as well as through several plexuses formed between its [the spinal cord's] nerves and the sympathetic, the muscles of the chest and abdomen are brought into action in consonance with the parts receiving its [the involuntary tract's] nerves, in sneezing, coughing, speaking, singing, and various modifications of the voice; also in ruminating, vomiting, and other acts of evacuation."

Mr. Swan thinks it very probable that the posterior roots of the ordinary spinal nerves, and those of the spinal accessory, like the large root of the fifth nerve, are connected with both the sensitive and the involuntary tracts; and that these tracts, like the voluntary, cross in their passage between the brain and spinal cord. For his arguments on these subjects, and his views on several other points of interest, we must refer the reader to the work itself.

We have been surprised in perusing this book, the production of an accomplished anatomist, to find a large number of ill-constructed and obscure sentences, which in an ordinary writer would be held as evidences of either confusion of ideas, or want of verbal power.

We have already noticed in our quotations some of these obscurities, and we think it not improper to notice still further such departure from the path of correct writing.

At page 6 we find—

"There is a sufficient agreement between the several parts for a vital coaptation, and for nourishment, by means of the same blood-

vessels, but not for interfering with each other in the performance of their respective functions."

We should think that the closer the agreement, the less the likelihood of mutual interference.

At page 11 he says:—

"The sensitive faculty forms an essential part of the sensory; and probably through it not only the nerves of common sensation, but all those of special senses, have their *several variations of sense* [the various impressions made upon them] recognised and perfected either separately, when they relate to one, or in combination, when they refer to several qualities of the same object."

Again:—

"The spirit in which impulses are, however, recognised, depends very much on the capacity and activity of the whole sensory, so that each impression in animals is principally noticed or not according to the state of the system with regard to the necessity of gratifying any of the habits or passions; but in man much more in respect of the intellect."

This is, at least, obscure.

At page 12 we are told that—

"The anterior pyramidal bodies bear a certain proportion to the spinal cord, . . . they are, therefore, wide apart when the brain is large, and closer when the brain is more simple. *According to their equality of size, they have similar physical powers over the muscles.*"

What does this mean? Further on, in the same page, we learn:—

"That a small brain suffices for the agency of the will, if the muscles, however large, are restrained by mechanical contrivances; for the will then appears not to be often exercised except when very strong impressions are made on the sensory, either by the organs supplied by the involuntary nerves or those of the senses."

We have endeavoured in vain to detect the meaning of the foregoing sentence. Further on we are told—

"The appropriate convolutions of the involuntary tract are proportionate to its size, independently of the greater or smaller extent of the whole sensory. By its connexion with the sensory, its nerves derive a higher perceptive power for allowing the organs supplied by them to act in concert with sensitive parts and with voluntary muscles, not only for insuring a due replenishment of purified blood, but for a co-operation with the intellect, in effecting changes of the voice, and various acts requiring modified powers of the chest in the use of the limbs."

We regard this sentence as the *ne plus ultra* of obscurity and confusion.

We might quote several other sentences distinguished by a similar unhappiness of construction, but we think we have adduced enough to prove that our charge of a too great disregard of the laws of philology has not been pronounced without sufficient foundation.

We will make only two more quotations, for the purpose of expressing our concurrence in the theory which they contain. Mr. Swan remarks in page 5:—

"When all parts of the brain and nervous system have been enumerated, there would remain a great deficiency in their means of agency unless the organs of the body were noticed along with them. In almost every animal some difference of perception is derived from the quality of the circulating fluids, from the vascular arrangements, and from the mode of construction of each organ of the body."

And in page 11:—

"In the production of the peculiarities of habits of the animals, it is probable that there is a modification in the quality of the sensory, the nerves, the organs, and the blood."

We have long maintained the opinion that the intellectual and the moral qualities of animals and man are largely dependent on the condition, original and acquired, of the various organs, and indeed, in greater or less degree of all parts of their physical system, and not solely on the mode of structure, and the comparative predominance or deficiency of certain parts of the brain. This important truth has been too much excluded from the system of phrenologists, who have laboured to demonstrate in the brain organs sufficiently numerous for all the moral and intellectual tendencies, and sufficiently powerful to determine absolutely their characters; and still more unhappily has it, with all its practical tendencies, been disregarded, because unknown, by legislators, and those who have had the charge of education. Its truth and great value have been proved in many instances by its application in the treatment of the insane.

We conclude by recommending Mr. Swan's work to the careful perusal of the anatomist. Its excellent illustrations will afford a very clear conception of the author's anatomical views, and will serve as a guide to those who may desire to follow in his path; and the letter-press contains a large quantity of matter condensed into a small space, the greater part of which is well worthy of the pains sometimes required towards a full understanding of its purport.

The Microscope in its special Application to Vegetable Anatomy and Physiology. By DR. H. SCHACHT. Translated by F. CURREY, ESQ., M.A. With numerous Illustrations. London: Highley, 1853. 12mo ; pp. 131.

THIS nicely got-out volume purports to be a translation of the work of Dr. Schacht, the celebrated naturalist. The enterprising publisher informs us that it is intended as the second section of a "library of science and art" in which, the student may by easy steps become familiar with the great principles of philosophy; and those apparent mysteries opposing his progress in knowledge be divested of much of their obscurity.

The first three chapters contain very clear and highly practical suggestions, specially deserving the study of those desirous of becoming vegetable microscopists, and are also well worthy the attention of all engaged in histological study, since, in a brief but perfectly explicit manner, directions are given how those many appearances which are liable to confound the investigator may be avoided, while the true character of such errors are at the same time fully pointed out. An ingenious and simple instrument is figured in the second chapter, by which the investigator may be enabled to make vegetable sections of the most extreme tenuity. The recommendations and directions which are here set forward we heartily recommend to the perusal of those not already familiar with the practical working of this instrument, and perhaps many who profess an intimacy with, and talk learnedly of, minute structures might also derive profit from their perusal.

The different forms and arrangements of the cells of plants, and the methods of procuring and examining them, are detailed with much distinctness and perspicuity. The fourth, fifth, and sixth chapters, while avoiding the undue use of technicalities, which are so calculated to embarrass the unprofessional student, still afford unmistakable evidence of the competency of the author, as well as the anxiety of the translator to simply and yet distinctly treat a highly interesting and important subject.

It is scarcely requisite that we particularize either the microscopic appearances set forward, or the means by which they may be recognised. It is sufficient to observe, that, as the work does not profess to entertain those very abstruse questions, respecting which conflicting opinions exist, but rather to guide the student in his self-seeking after knowledge,—the first are in accordance with the present state of our knowledge; and the

second bespeak a practical acquaintance with the minutest considerations essential for the investigation of vegetable structure.

The sixth chapter, by numerous well-executed woodcuts, illustrates the development of flowers. We would particularly recommend the seventh and eighth chapters as offering valuable suggestions respecting the drawing of objects in natural philosophy generally, and microscopical objects particularly, as well as the best means of preserving microscopical preparations, since on the accuracy of the first, and the perfection of the second, the value of both illustrations and specimens altogether depends.

We congratulate the publisher in having presented a valuable little work in so easily accessible a form, which, unlike many attempts at popular scientific expositions, is neither deficient in accuracy, nor superficial in information. We would, however, recommend, that in the promised continuation of this series stricter attention be given to the correction of the press, so as to obviate the necessity for so long a list of errata as is presented in this volume.

The Common Sense of Cholera. By a Practical Practitioner. London: John Churchill. 1854. Small 8vo, pp. 68.

We had intended postponing for the present all notice of the many works and pamphlets on cholera which have been brought forth by the recently threatened invasion of the epidemic, and with which our table is now loaded; but our attention was so forcibly attracted by the above title, that we thought it would be unfair to debar our readers of a "Practical Practitioner's Common Sense" view of so incurable a malady, or ourselves of the knowledge that might be acquired from an immediate perusal of it. The dramatically poetical style of the opening paragraphs, however, so affected our prosaic mind that we confess we were unable to get beyond them, and we shall therefore preserve them in our pages as a rare specimen of medical writing:—

"I. *What is the Disease?*—For an answer to this question, suppose, proceeding as at an inquest, we commence by viewing the body—that is, by seeing a case.

"Softly, then, and with an awe-struck heart, approach the bed where lays, in middle of the disarray of bed-clothes, tumbled from the restless, outstretched arms, tossed from the restless, outstretched legs, the ghastliness of cholera. Between the half-closed eyelids, only the whites of the eyes are seen, blank, over an awful, mottled-

livid face with shrunken nostrils, and with blue, blue lips. How crooked are the fingers of the hand you take; crooked, blue, and corrugated; contrasting strangely with the pearly nails! How cold the arms you touch, and dark; dark, dark, and icy cold! There is no flutter of a pulse in them. You stoop; you put your fingers on the lips: why the very breath blows cold upon them! And the tongue? Cold; cold, moist, clean; almost with the feel of raw flesh. You speak to him: he turns his glassy eyes on you: "Heat," he whispers—how peculiar is the whisper!—"heat;" and he lifts his dusky, crooked hand down to his shrunken bowels. Heat, internal heat, it tortures him: no draught can slake it or assuage. And yet, how cold the whole surface of his body! Cold, cold; dark, dark! Suddenly, with fearfully rapid toss, with fearfully muffled cry, he startles you! "Cramp," he whispers with wild eagerness, "cramp!" O, soothe his agony! Rub—press—squeeze those knots upon his legs,—before,—behind; those others on his arms—up—down—here—there. Such suffering, such ghastliness, and with a head as clear as diamond: 'TIS CHOLERA!"

The Pathology and Treatment of Stricture of the Urethra, both in the Male and Female; being the Treatise for which the Jacksonian Prize, for the year 1852, *was awarded by the College of Surgeons of England.* By HENRY THOMPSON, F.R.C.S., M.B. Lond., &c., &c. London: Churchill. 1854. 8vo, pp. 424.

NOTHING can better prove the great importance which the study of diseases of the urinary organs obtains with the profession, than the number of works that are constantly being published thereon. It is one, however, which has been hackneyed beyond all precedent; and we cannot but think that all known upon it is by this time well nigh exhausted. We have often alluded to the fact, that, notwithstanding the number of works upon different urinary diseases which emanate in such profusion from the press, there is still required a complete book embodying all the surgical diseases of the urinary organs: such a one as would form a good text-book for the student, and serve as one of general reference for the practitioner.

Writers upon this department of surgery have almost invariably taken up one or two subjects only, spinning them out chiefly by collating and repeating the results of the researches and practical experience of others; while some appear to have written upon a particular branch, such as stricture, merely with a view of extolling or condemning a special method of treatment.

These observations are not meant to apply to the volume before us. It is a treatise written for a purpose, being that to which the Jacksonian Prize for the year 1852 was awarded by the College of Surgeons of England; and without prejudging its merits we may state, that the author seems to have brought no little assiduity and care to the performance of his task.

The book is entirely devoted to the consideration of the "Pathology and Treatment of Stricture of the Urethra:" a subject doubtless of vast importance, still one which, though so frequently made the object of distinct treatises, has been rarely handled in that able and scientific manner which, in the case of some other diseases, has tended so much to the elucidation of their nature, diagnosis, and treatment.

Why the pathology of stricture, both as regards the process of its formation and its effects, has not been more elaborately investigated, and as much as is known upon these points more graphically described, must be a matter of surprise to those who reflect upon the dreadful evils which this disease is so apt to induce. In the case of cardiac diseases, for instance, pathologists have pursued the investigation of their morbid characters with the most energetic ardour, and this has chiefly been the means of removing the obscurity which a few years ago overshadowed these affections, and of rendering their diagnosis more easy and accurate. And if the diligence with which the pathology of the heart has been prosecuted has done so much, in a practical point of view, an equal amount of attention to the pathology of the expulsive part of the urinary apparatus would prove of still greater practical utility: since in the former the knowledge gained by research has done little more, comparatively, than render diagnosis easy and prognosis certain; whereas in the latter it would doubtless lead also to marked advantages as to treatment.

The work of Mr. Thompson on the pathology and treatment of stricture opens with a very excellent description of the anatomy and physiology of the urethra. The opinions and researches of the most eminent anatomists are carefully collated and put together with perspicuity and methodical arrangement, some results of the author's individual investigations being added. We shall only refer to one subject in this part of the work, viz., the muscularity of the urethra. We had occasion a short time since to consider this particular point in our notice of Mr. Hancock's excellent little Treatise on Stricture, and we now repeat the opinion which we then expressed, that though we do not deny the existence of minute involuntary muscular fibres along the urethra, principally because so many

able microscopists have declared their presence, still that most if not all the phenomena observable, both normal and abnormal, are explicable altogether upon other grounds. Mr. Thompson is amongst those who contend that the urethra is muscular throughout, and adduces in proof the common illustration that instruments are frequently grasped in the canal and expelled with considerable force in their withdrawal. He strongly recommends these phenomena to be brought to the test of personal experiment, and insists that no surgeon should attempt to pass an instrument for a patient who has not first introduced one through his own urethra. We certainly do not possess that ardour for the cause of science, or sufficient passion of benevolence to induce us to perform an operation on ourselves which, though neither very painful nor dangerous, is, we believe, productive of as disagreeable results as can possibly be experienced, and this to become personally convinced of what we have so frequently witnessed, as a matter of necessity, in others. For ourselves we say, "sufficient unto the day is the evil thereof"—we have not the least fancy to become martyrs for the purpose of deciding a disputed question of this sort. Extend the argument of the necessity for personal infliction of operative procedures, and where will it end? We fear that we should soon become rather mutilated and useless ministers of the healing art!

The phenomena of the grasping and expulsive force exercised on instruments by the urethra we have indeed frequently witnessed in practice, and they certainly appear to favour the idea that the canal is muscular; but let us ask two questions,—first, is there ever any sensible expulsion of the instrument observable once it escapes fairly beyond the bulb? Second, is there ever any positive grasping sensation to be felt anterior to the bulb when a bougie or catheter, too small to dilate the canal, is employed?

Mr. Thompson says that these phenomena are exhibited by every portion of the urethra. We shall not deny this statement, but we doubt it. However, we shall put this matter to the test of experiment, not on our own persons, but whenever opportunities present in the case of patients requiring the employment of bougies or catheters.

The Second Chapter is devoted to a review of the classification and pathology of stricture. The author adheres to the division of strictures, which we conceive to be the most comprehensive and correct; it is, in fact, the one adopted by Sir Astley Cooper, viz., into the permanent or organic, the spasmodic, and the inflammatory. These classes will be found to

include all the varieties of stricture to be met with. The subdivision of permanent stricture he lays down we do not so much approve of. We think the simplest and best subdivision is into the "chorded,"—which corresponds with the "simple membranous," the "whipcord," and the "annular" stricture,—the "long" and the "bridle" stricture, these constitute all the varieties of permanent stricture known to morbid anatomists. The "partial or lateral," the "adhesions of the rugæ," "cicatrices," and "irregular contractions," enumerated by the author, are virtually but peculiarities or modifications of the former.

The following is the description of the morbid conditions which are to be found in the urethra, from the simplest sort of stricture to the worst:—

"On laying open a strictured urethra after death, we shall accordingly discover that the structure in which the constriction itself is seated is by no means always the same. It may be almost confined to the mucous membrane of the urethra, in which case it, as well as the bundles of elastic fibre beneath, appear to be simply hypertrophied, a condition which may be regarded as the primary and most elementary form of stricture; and the narrowing usually disappears when the section is made, leaving perhaps only a faint white line or two by which to indicate its situation. There is no particular redness of the membrane or congestion of its vessels to be observed; yet there is good reason to believe that this exists during life, but that it disappears after death. Most commonly the mucous membrane is seen to have lost its transparency and polish, to be thickened, indurated, or puckered, and on making a section of the strictured part no implication of the deeper tissues may be evident. It is, however, almost invariably more or less adherent to them, a condition which, during life, must in some degree tend to maintain irritation of the part from the straining which the membrane thus necessarily suffers during erection.

"In more severe cases the meshes of the submucous cellular tissue are seen to be filled with deposit, the presence of which destroys its elasticity and mobility, implicates the involuntary muscular fibres, which can no longer be traced, and extends to the proper fibrous coat of the spongy body. In the worst examples, the deposit even solidifies the erectile tissue itself, and constitutes the hard and unyielding mass already described. This condition is sometimes apparent enough to the finger, when external examination is made in the course of the urethra during life, a nodular mass being distinguished surrounding it, in the situation of the stricture, so firm and resistant to the touch as to suggest the idea that it might be a cartilaginous formation. The same condition may be found affecting also the corpora cavernosa, when the whole body of the penis presents a hard, gristly, and knotted feel, and a deformed appearance when erect."

This is a very good and correct description of the morbid characters of stricture generally; but it is to be regretted that no attempt at a delineation of the pathological peculiarities of each variety is attempted. It is rather a description of one form of the disease traced through its successive stages. As to the contraction of the urethra from exudation deposit upon the lining membrane, we feel confident that such kind of stricture must be extremely rare. Mr. Hancock says he has seen several instances of such stricture, but we are rather incredulous upon this point. If lymph be thrown out in any amount, as the result of acute inflammation, why should it not be cast off as in the analogous case of exudative inflammation in the respiratory apparatus? And if the lymph effused is the result of chronic inflammation, and that it is so delicate as to be sometimes visible only with the aid of the microscope, as Mr. Hancock has remarked, how could any appreciable narrowing of the canal be the consequence? Whatever diminution of caliber occurs must obviously be the effect of interstitial deposit of lymph in the membrane itself.

"Just in proportion to the harmony and completeness which obtain in the human economy in the performance of its numerous functions, and in the innumerable relations which each part bears to every other, may be estimated the extent to which habitual deviation, however slight, from the normal performance of a common act, is likely to implicate injuriously other organs, and induce grave results in course of time. True, there is a wonderful power of adaptation in nature to altered circumstances; the self-protective resources of the body are often developed to an extraordinary and admirable degree. But let the abnormity be long continued, and in time the very process by which nature at first defends herself becomes itself a source of evil. These remarks might be illustrated from the history of organic disease in almost every part of the body, but perhaps in none more fully than from that of stricture and its consequences."

This beautifully expresses, in general terms, three pathological facts, which obtain universally,—first, that a deviation from the normal condition in one part leads in process of time to morbid changes in others; second, that there is manifested a remarkable power of adaptation to such altered conditions; third, that when such conditions last long, the processes set up by nature as protective become themselves after a time most serious sources of mischief. These are facts which hold good throughout pathology generally. The effects of stricture are witnessed in the urethra behind the obstruction in the prostate gland, the bladder, the ureters, and kidneys:—

"One of the first results of permanent obstruction in the urethra is hypertrophy of the substance of the urinary bladder, proportioned in amount to the power required to overcome it. Perhaps, antecedently to this, might be reckoned a small amount of dilatation; the ordinary efforts of the viscus being insufficient to accomplish the act of micturition, some of its newly exerted force tells upon its own walls and dilates them. But the compensating principle referred to soon affords the power; the muscular fibres are greatly augmented—the coats of the bladder are thickened throughout—and in time the fibres take the form of trabeculæ or columnæ, interlacing in all directions, and exhibiting an appearance which has been very aptly compared to that presented by the musculi pectinati of the right auricle, or by the interior of the left ventricle of the heart. To what extent this change may proceed it is almost impossible to say. Preparations are exceedingly common in which the coats of the bladder measure from half to three quarters of an inch in thickness, and some even amount to one inch in places. This chiefly depends on hypertrophy of the muscular fibres, although the same condition extends also to the areolar tissue which unites them, and to the mucous membrane as well, especially when there has existed much inflammation of the last-named structure.

"As a consequence of that fasciculated arrangement which the fibres acquire, interstices of varying size are observed between the bundles."

The very first change generally is mere contraction of the viscus, a diminution in its capacity. The earliest sensible effect of stricture usually is some irritability of the bladder, so that the organ contains only a small quantity of urine at a time; accordingly, it becomes contracted, but without any appreciable thickening of its walls. When the obstruction becomes so great as to demand the exercise of force, in order to expel the urine, then the muscular fibres of the bladder become, in obedience to a fixed law in the animal economy, preportionately hypertrophied. So long as the bladder is able to expel the whole of its contents, the hypertrophy is concentric; but when more or less urine is constantly retained, then, as in the analogous instance of the left ventricle of the heart in obstruction at the aortic opening, the parietes become absolutely thickened, but relatively thinned.

The most important, however, if not the most serious, of the mechanical effects of stricture is dilatation of the urethra behind it. This part becomes the source of danger, not only from the risk of rupture, and consequent extravasation of urine occurring, but it frequently is the seat of inflammation, the deposit of lymph, and ulceration which may lead to abscess:—

"Besides the expansion or dilatation of the structures involved, another result is ulceration, commencing in the mucous membrane.

The tissues themselves give way to the destructive agencies which slowly work upon them. First, the mucous membrane behind the stricture, at which spot it is closely adherent to the subjacent structures, strained and irritated by frequent acts of micturition, and by frequent, or indeed by almost constant contact with the urine, soon becomes the subject of chronic inflammation, more of its natural secretion is poured out, mixed with some pus, and it is soon denuded of its epithelial layer. Thus we find after death, that while the mucous membrane of the strictured part itself is opaque, white, and condensed, that which is immediately behind appears extremely thin, and is minutely injected with fine vessels, running for the most part in arborescent forms. Ulceration commences, and more unfavourable circumstances for the occurrence of any healing process can scarcely be imagined, than those to which the newly made sore is thus exposed. It may extend either deeply or superficially."

The Third Chapter treats of the symptoms and pathological effects of organic stricture. We think it would have been better not to have blended these two subjects so much together. The following extracts contain observations upon the symptoms of stricture well worthy of attention:—

"The earliest symptom usually noticed by the patient is a little gleety discharge, almost constantly present in greater or less quantity. Some uneasiness is felt, or it may be occasional pricking pain in some part of the course of the urethra, or a little smarting when the urine passes over it in micturition, but varying in intensity. The contents of the bladder are emptied at shorter intervals than has been natural. The stream is somewhat altered in form, not having the full rounded character of health, but more or less flattened; it may be twisted, spirting, forked, or even divided, which conditions are caused by the current of water being insufficient in size and force to dilate and extend the lips of the meatus externus, so that the fissure-like form of that opening modifies the stream; and if its momentum be insufficient to separate each lip from the other the urine issues above and below, so that two small streams are produced instead of one. At the same time, it must not be concluded that the existence of such a stream is by any means, *per se*, a proof that stricture exists, since many persons, from a tumid condition of the meatus alone, habitually pass such an one. Then gradually, as contraction increases, or as fresh obtacles occur in other parts of the urethra, it grows smaller, and in time the urine may issue only by drops; or, during the passage of a small stream, drops may simultaneously fall directly from the orifice.

"One of the most distressing symptoms, perhaps, from which the patient suffers is the constant desire to make water, which is almost invariably present in severe cases, giving rise, as it does, to frequent and painful acts of micturition. In this way the sleep is broken, or almost destroyed, some patients being compelled to rise from bed

ten or twelve times in the course of the night, while, in the worst cases, or during temporary exacerbations of the complaint, a great portion of the time is spent in laborious and unavailing efforts, by change of posture or by straining, to obtain some relief. These frequent calls to micturate may arise either from diminished capacity in the bladder, through concentric hypertrophy already described, or from increased irritability which may lead to, or be the result of, existing chronic inflammation of the organ, or from an abnormal condition of the urine itself, presently to be noticed; or, indeed, as is most commonly the case, from all three combined.

"There is also, in most cases, an increase of the mucous secretion of the canal, or rather, this is mixed to a greater or less extent with some purulent matter, and has an opaque and slightly yellowish appearance. Not unfrequently it is transparent, or nearly so, and contains numerous fibrous shreds floating in it, which have been compared to particles of vermicelli. This matter oozes from the meatus, and stains the linen, and its presence is a very frequent concomitant of urethral contraction. Indeed, the existence of a long-standing or obstinate "*gleet*," as such chronic discharges are termed, should always arouse inquiry for stricture, and a sound should be passed in order to ascertain the caliber of the canal, if it have not been already done. I have known instances in which this symptom has been so prominent that the patient has been treated for gonorrhœa during a period of many weeks without any suspicion arising that a stricture existed, which was its sole cause, the subsequent recognition of the contraction and its cure having been attended with the complete cessation of the discharge."

A gleety discharge is one of the commonest symptoms of stricture. How frequently have patients been dosed with cubebs and balsams, and the urethra injected with an endless number of astringents, with a view of checking a discharge which depended on the presence of a stricture, the removal of which would have been alone essential to the disappearance of the former!

The Fourth Chapter reviews the causes of organic stricture. The author divides the "exciting or immediate causes" of stricture into four heads, and arranges them and their subdivisions in a tabular form. We think it would have been well if Mr. Thompson had drawn a line of distinction between the terms immediate and exciting cause. He uses them synonymously. The term immediate is generally used synonymously with proximate cause, and this is the most scientific application of the word; the exciting comes under the head of the remote causes, and it will be found of use to bear this difference in mind.

The immediate cause of stricture is chronic inflammatory

action; its exciting cause is any circumstance which is capable of developing inflammation.

As to the question of the relation which gonorrhœa holds to stricture, we cannot conceive how it can be denied that the former disease is, of all others, the chief, fertile, remote cause of the latter. Hunter, it is true, denied that relation; but a careful study of his observations upon this point will satisfactorily prove he did not exactly deny the fact that gonorrhœa may lead to the production of stricture, but rather that there is anything in the specific character of gonorrhœal inflammation which gives it a tendency to produce stricture—an opinion in which we fully concur. Some, however, altogether deny the relation of cause and effect between gonorrhœa and stricture; and amongst many arguments which have been advanced in support of this assertion is the rather illogical one, that all who are attacked with gonorrhœa do not get stricture. It might be argued, with an equal show of reason, that hepatization of the lung is not the result of pneumonia, because in some instances the inflammation is resolved before the disease reaches the second stage: or again, that contraction and immobility of the pupil should not be viewed as the result of iritis, because these ill events do not happen in every instance. In the same way, gonorrhœal inflammation may disappear without leaving the least tendency to stricture, but in the great majority of cases it degenerates into that chronic state, the long continuance or frequent repetition of which works those slow changes in the urethra and outside it which eventuate in the production of that adventitious structure which constitutes stricture. It is, therefore, because gonorrhœa is so apt to leave behind it chronic inflammation, that it becomes such an efficient cause of stricture. We cannot understand how any one could have traced the history, and observed the course, of a large number of cases of stricture, without admitting that there is not to be witnessed in disease a better example of the relation between cause and effect than exists between gonorrhœa and stricture.

How frequently are we able to trace cases of gonorrhœa passing, by almost insensible gradations, into stricture? At first there is acute gonorrhœa; this merges into gleet; and the latter glides into stricture. And is it not even popularly known that, in proportion as a gonorrhœa or gleet lasts long, or that its attacks are frequent, in the same ratio is the chance of the occurrence of stricture increased? But a reference to statistics is by far the best way of settling all such questions. Mr. Thompson has carefully collected 220 cases of stricture,

has analyzed their history, and the result is, that out of that number 164 were traceable to gonorrhœa!

The fifth chapter is devoted to a consideration of the pathology of strictures of transient duration, including the spasmodic and inflammatory varieties. We cannot dwell upon this part of the work, but we strongly recommend its perusal to those who desire sound information on this particular department of the subject.

We now come to the treatment of stricture of the urethra:

"To accomplish the removal of permanent stricture two indications are presented, which may be thus briefly stated:—

"First, to restore the natural caliber of the canal, or at least so far as shall be consistent with the safety and comfort of the patient.

"Secondly, to maintain the adequate patency of the canal afterwards."

The author, after alluding to the fact that various modes of treatment are applicable to different cases, says:—

"All these plans, however, may be resolved into three classes. The opposing tissue of the stricture is either dilated, which usually involves its absorption, as the result of pressure, or it is wholly or partially destroyed by chemical agents, or it is divided by some cutting instrument; and of course all these processes may be more or less combined with certain general or constitutional treatment."

The term "dilatation," employed to designate a principle upon which stricture is cured, is most erroneous. How can a stricture be cured by dilatation? In many instances, no doubt, a bougie will pass through a stricture by mechanically dilating it, but the moment the instrument is withdrawn the stricture resumes its original state. For the cure of a stricture, the lymph constituting the adventitious structure must be absorbed: and this is really what does take place under the influence of the bougie; accordingly, the principle of cure should be termed *absorption*, and not *dilatation*. The means by which absorption of the stricture is effected are various. The author recommends the employment of the metallic sound or catheter; but in this we cannot coincide; experience has impressed upon us a decided preference for gum-elastic instruments. We consider that they are far less liable to do mischief to the urethra than the metallic, or to produce so severe an impression upon the system.

But what, it may be asked, is to be done with those strictures which will not permit the passage of the smallest instrument of any description through them? Our author answers:—

"The employment of continued pressure on the face, or in the commencement of a stricture, is almost uniformly successful, and whether by inducing absorption, or by its mechanical operation upon the yielding materials of the obstruction, or by both combined, certain it is that its use in cases where false passages either do not exist or can be certainly avoided, is unquestionable. The operator, however, should be tolerably certain that he is acting on the contraction, and not following or making a devious track. It is important to remember, as an invariable rule in relation to these attempts, that when the instrument is tightly grasped the operator may infer that its point is safe within the strictured part, but that when the point feels free, movable, and capable of being withdrawn without appreciable effort, it is certainly not in the stricture; it may be, in such circumstances, in a false passage. If after being grasped or 'held' it advances suddenly for a short distance under pressure, and becomes movable, it must be taken for granted that a false passage has been made and the urethral walls perforated; after which unfortunate occurrence all further efforts must be given up, at least for several days, and the employment of instruments, when again resorted to, must be conducted with vigilant care to avoid any re-opening of the lacerated part."

The next part of the treatment of stricture considered is the plan of permanently retaining a catheter in the bladder. Some very excellent remarks are made upon this point; we cannot, however, agree with the writer that the silver instrument is the best for the purpose. We conceive that nothing can be more dangerous than to leave a metallic instrument in the bladder for any length of time. It must be remembered, it is by no means an easy matter to keep a curved instrument of any sort *in situ* in the bladder. If not firmly fixed it is sure to slip out of the bladder into the urethra; and then what serious consequences may ensue! and if it be so steadily settled as that this occurrence cannot take place, what mischief may be the result of the pressure of the point of the instrument against the lining membrane of the bladder! The diminished chance of phosphatic incrustation forming on the extremity of the silver instrument alluded to by the author, as being in favour of the employment of that sort of catheter, is no sufficient argument against the weighty objections to its use which we have advanced. The maxim, that "of two evils we should choose the less," should never be forgotten, particularly in the practice of surgery.

Mr. Thomas Wakley, of the Free Hospital, London, has planned a *urethral scheme*, if we be allowed the expression, with a view of removing "the uncertainty of being able to replace

a small instrument which has been introduced into the bladder with great difficulty if it be withdrawn:"—

"In the treatment of a narrow stricture by this method, a wire of smaller size than No. 1 catheter is used in the first instance, called by him the 'urethral guide,' and carefully passed into the bladder. The advantage, which will now appear, arises from not withdrawing this instrument until another, consisting of a straight silver tube, has been passed over it through the stricture; so that the route being at first correctly taken, all future efforts will to a certainty be made in the same direction, and with greater ease than if the first, or 'urethral guide,' were not present."

We cannot chime in with Mr. Thompson in his laudation of this invention, if such it can be called. A complicated contrivance to effect what is achievable by simple means, which have answered the purpose time out of mind, cannot in strictness be termed a "useful" invention. As to its utility, like many other inventions of the kind, it would be useful enough if its prime object was easy and certain of accomplishment. If once the "urethral guide" is passed, then the subsequent proceedings are simple enough. Yet every surgeon knows the difficulty of introducing even a gum-elastic catheter of No. 1 size into the bladder, owing to the impossibility of preventing its point from catching in the lacunæ and folds of the urethra, and how much less easy must it be to pass a straight wire of smaller size than a No. 1 catheter. And surely if a false passage exists, how much more inapplicable must such an instrument be; besides, there is seldom, if ever, any difficulty in introducing a fresh instrument after the first few days have elapsed, so that the apparatus is unnecessarily cumbrous, even allowing that it may be of use in the first part of the course of treatment. Inventions are of little use if their merit consists only in ingenuity of idea without applicability to practice. But this suggestion or invention of Mr. Wakley's is by no means original, even in idea,—the plan of introducing a "urethral guide" has been long adopted by Mr. Hutton, of this city, in cases of retention of urine arising from tight stricture. Mr. Hutton's apparatus consists of a fine catgut string of considerable length, rendered smooth by a varnish of elastic gum. This is passed through the stricture into the bladder, and then a gum catheter constructed specially for the purpose is slipped over it, the catgut being withdrawn.

We condemn, therefore, this contrivance of Mr. Wakley's, because it comes to us with all the pomp of an original invention, whereas it is in reality but a modification of one long had

recourse to, and far more feasible in every respect, and because it is rather calculated to carry out an abstract idea than to prove of any practical utility.

The Seventh and Eighth Chapters are occupied with observations upon "the employment of chemical agents in the treatment of stricture, and on the method of treatment by internal incision; but as both these plans have become nearly obsolete, we shall pass on to the next chapter, which considers that *vexed question*,—the treatment of stricture by external incision.

After alluding to the "perineal section," as it has been performed from time to time by different surgeons, the author says:—

"In reviewing the history of external operations performed in the perineum (which has on this account been given at some length), it appears that these have long been recognised as necessary to the cure of some cases of stricture which have been impermeable to any other method; and during the last twenty years a good many such cases have been thus treated. That many instances in which they have been performed have terminated fatally is a fact too notorious to need corroboration by cited reports. Nor would a classified Table of such cases furnish data of any utility in testing the value of the operation. For it has been rarely performed except as a *dernier ressort*, as a proceeding of necessity and not of choice, and in certain old strictures of the worst kind in which renal disease has often co-existed, and rendered the patients particularly bad subjects for any operation. And with such a class of cases it is impossible to decide what per centage of deaths should be considered as favourable or adverse to the operation, as indeed it also is in many of the particular cases, to apportion the respective influence of the disease, and of the remedy, in bringing about the fatal result."

He next enters upon the consideration of Mr. Syme's modification of the operation in question, which has been the ground of such active controversy since it was first introduced to the notice of the profession. We were called upon a short time since to discuss this much-disputed point in our review of Mr. Lizars' treatise on stricture[a], and we shall not now recapitulate the arguments then advanced, but shall merely repeat this one observation, that, whenever Mr. Syme shall furnish us with the necessary statistics, that his operation proves a far "*safer, quicker, and more permanent*" means of curing certain strictures than the ordinary method we shall at once advocate and employ it.

As to the question of the "permeability" and "imperme-

[a] New Series, vol. xii. p. 136.

ability" of strictures, with which the operation of Mr. Syme is so much mixed up, we regret that our author should not have handled it in a clearer and more satisfactory manner. How much confusion would be avoided, and how much positive error, by exhibiting some little regard to logical accuracy.

If by the term "impermeable stricture" is meant one that cannot be traversed by an instrument until after frequently-repeated efforts; until, in fact, a considerable portion of the adventitious deposit has been absorbed,—there are hundreds of such instances. If, on the other hand, by the term "impermeability" be meant complete obliteration of the urethra at the strictured point,—then there are but a few examples of such a condition to be found: yet the term is more strictly applicable in this sense. Whichever meaning be attached to the word "impermeability," let it be strictly borne in mind, and let conclusions be drawn accordingly.

Mr. Syme seems to have confused himself, as well as those who have entered with him into the arena of argumentative strife, by using the term "impermeable" apparently in the two senses just referred to. Sometimes his phraseology would convey that there is no such thing as obliteration of the urethra; at other times it would lead us to infer that his views do not differ from our own in any material respect. Mr. Syme, in one part of his writings, says: "As to the question of 'impermeability,' I simply maintain that if the urine passes out, instruments may always, by care and perseverance, be got in beyond the contraction." What is his exact meaning here?

If he means that because a fluid can pass through a narrow point, therefore a solid body must likewise do so, we cannot concur in his reasoning; but if by "care and perseverance" it be intended to convey that no stricture will resist the constant application of instruments, then we may agree with him, though, perhaps, not to the full extent. Mr. Liston expressed himself in equally loose phraseology upon the same subject.

Now upon the settlement of this point, simple as it may appear, a great deal of the admissibility of Mr. Syme's operation depends. If it be possible always to pass a grooved director, of the size employed by Mr. Syme, through every sort of stricture, merely by adroit manœuvering, then should it be capable of proof that division of the contraction will constitute a more *permanent* cure (which, however, we doubt, the operation alluded to must be looked on as one of the greatest advantage. But if the stricture becomes passable only after the persevering use of instruments—which

implies absorption to a certain extent of the adventitious structure,—then wherein consists the utility of following up the the cure by so serious a method as external incision. For our part, we have seen quite enough of stricture to feel thoroughly convinced that many cases are to be met with which are to all intents and purposes "impermeable" or "impassable;" that is, where the obstruction is so close as to render it physically impossible to pass an instrument of any size. Dexterity, no doubt, can accomplish a great deal in the use of the catheter, as it can in any other operative proceeding, but it cannot work wonders. The most accomplished necromantic skill will not allow the achievement of urethral miracles, no more than it will enable its possessor to overcome the laws of nature in any other instance; and suppose now, for argument's sake, that there is no such thing as impermeable stricture, allow us to ask, is it never necessary to employ any force in passing Mr. Syme's director through the obstruction, and if so, is there no risk of making false passage? The whole practical advantage, however, of Mr. Syme's operation, turns upon this one consideration,—does it, in those relapsing forms of stricture, constitute a *more permanent* means of cure than the ordinary method? We want proper statistics to establish this point.

The Tenth, Eleventh, and Twelfth Chapters treat respectively of urinary abscess, retention of urine, and stricture of the female urethra, upon each of which subjects, though the observations are short, much valuable information may be gleaned. Added to the work is an appendix of many pages, containing most excellent instruction, both pathological and practical.

We now take leave of Mr. Thompson's Treatise, and we cannot better express our approval of it than by stating that for accuracy, perspicuity, and methodical arrangement of the different departments of the subject, it surpasses any compilation—and they are not a few—on the pathology and treatment of stricture which we have ever perused.

Surgical Anatomy. By JOSEPH MACLISE, F. R. C. S. Second Edition. London: Churchill. 1853. Folio. Fasciculi I. II. and III. Plates 1 to 12.

WE have, on a previous occasion, when reviewing the former edition of this work, entered into an account, not alone of its auctorial, but of its artistic execution, and at the same time expressed our opinion as to the gratitude due by the profession

to the spirited publisher for placing such a book within the reach of all, both students and practising surgeons, by issuing it at so low a price. We are pleased to find, from the notice by Mr. Churchill on the cover of the first part of this second edition, that the 1000 copies which were originally published by him were all exhausted in six months after the completion of the work, proof sufficient of the response of the profession to the liberality of the publisher. We know that the character of Maclise's Surgical Anatomy is now so well established, and so universally known, as not to need our eulogy,—yet we cannot avoid again expressing our opinion as to the fidelity and beauty of the illustrations, and the clearness and correctness of the letter-press descriptions. It is truly a magnificent book, presenting a rare combination of the *utile cum dulci.*

Inconographie Ophthalmologique, ou Descriptions et Figures Coloriées des Maladies de l'Organe de la Vue, comprenant l'Anatomie Pathologique, la Pathologie et la Thérapeutique Médico-Chirurgicales. Par le Docteur J. Sichel, Professeur d'Ophthalmologie, Médecin-Oculiste des Maisons d'éducation de la Légion d'honneur, etc. Paris and London: Hippolyte Baillière. 1852. 4to. Parts 1 to 4.

The late period at which we received the four first parts of this work prevents us from doing more in our present Number than announcing their receipt; but even this we cannot do without recommending the work, in the strongest terms, to all our readers who are interested in the study of diseases of the organ of vision. They have here presented to them, at a very moderate price, the most perfect coloured illustrations of the morbid changes which affect the eye that have been ever published; the name of the author, *the* French oculist of the day, being a sufficient guarantee for their correctness, and for the descriptions with which they are accompanied. Whether we look at the plates now before us as perfect works of art, or as faithful pathological drawings, they are in truth very beautiful.

PART III.

MEDICAL MISCELLANY.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

FOURTEENTH SESSION.—1853-54.

Ovarian Disease.—Dr. Banks exhibited an ovarian tumour, removed from the body of a woman aged 40, who had been admitted into Sir Patrick Dun's Hospital in March, 1853. She stated that twelve months before that period she, for the first time, noticed an enlargement of the abdomen; it had attained a considerable size when her attention was attracted to it by a sense of uneasiness and weight; she also suffered from sickness of the stomach, more especially in the mornings. She was obliged to give up her employment as a servant a few months before her admission into the hospital. She did not present the appearance of a person suffering from organic disease; she had not lost flesh, nor was her complexion unhealthy; the dragging sensation (which was present from the beginning of her illness) was most distressing when she lay upon her left side; the abdomen was much enlarged, irregular in outline, and more prominent at the right than at the left side; the sound elicited by percussion was everywhere dull, except in the left iliac region; it was not altered by changes of posture. She complained of frequent micturition and constant sickness of stomach; the catamenia were regular.

Considerable difference of opinion existed among those who examined the case from time to time, as to the cause of the enlargement of the abdomen, some ascribing it to the existence of an ovarian dropsy, while others believed it to be owing to ascites. A very careful investigation, however, of the signs and symptoms of the disease induced Dr. Banks to coincide in opinion with Dr. Lees (who had seen the case before the woman came into hospital), that the tumour was an ovarian cyst; and it was agreed to perform the operation of tapping. The phenomena upon which the diagnosis

was principally founded were, the irregularity of the tumour, its much greater prominence upon one side than upon the other, and the resonance in the left iliac region. The operation was performed by Dr. Williams, and eighty-three ounces of a beautifully transparent fluid, slightly tinged with blue, were drawn off. Some slight symptoms of peritonitis ensued, but were subdued by treatment, and on the 2nd of August the patient was transferred to the Whitworth Hospital, and shortly afterwards the sac was again punctured, and upwards of twelve quarts of fluid evacuated. It resembled now the ordinary fluid of ascites.

From this period her health and strength rapidly declined; on the 20th of November she was attacked with a severe diarrhœa, and died on the 6th of the present month.

The post-mortem examination of the abdomen disclosed a very large ovarian tumour upon the right side, adherent to the peritoneum in front, and to the intestine posteriorly. It consisted of three sacs, which did not communicate with each other. The largest of these sacs was filled with a sero-purulent fluid, and its lining membrane was covered with minute arborescent vessels. The left ovary was healthy; a small pendulous tumour existed in the uterus, and another in the vagina.—*November* 26, 1853.

Fungus of the Bladder.—Sir Philip Crampton, having first offered some general observations upon the various causes and sources of hematuria, exhibited a specimen of fungous growth from the interior of the bladder. The patient was a man of advanced age, who for three years before his death had suffered from hematuria; the bleeding was seldom absent for more than three days at a time; any rough exercise was certain to produce it; it was accompanied by pain and extreme irritability of the bladder, yet during nearly the whole of this long period the patient's health was scarcely affected. For some time previous to death the urine was scantily secreted. Death was immediately preceded by a convulsive attack.

The post-mortem examination was made by Dr. Hughes. A large cerebriform tumour was found springing from the internal surface of the neck of the bladder; the lining membrane of the entire organ presented the anatomical characters of chronic inflammation, and the cavity of the viscus contained about four ounces of thick purulent fluid mixed with blood. The right kidney was converted into a large membranous sac, which contained half a pint of turbid fluid; the left was hypertrophied, being of twice the normal size.—*November* 26, 1853.

Abscess in the Brain.—Mr. Hamilton exhibited a specimen of abscess in the brain, and gave the following history of the case:—A young woman, aged 25, was admitted into the Richmond Hospital, labouring under some affection of the head. Her manner was extremely odd, and at times she appeared quite silly, laughing without any cause at one moment, and at another becoming extremely

dejected, moaning, and pressing her hand to the right side of her head. Sometimes, again, she would become excited and hysterical, especially if stared at. She gave a very imperfect history of her illness, her memory seeming much affected; but as far as we could learn, she had been suffering from an intense pain in the right side of her head for more than a month. Sometimes it was so intense as to prevent her knowing what she did; it was also intermittent, subsiding for some hours, and then returning with increased violence.

Before she came into the hospital a small swelling formed on the side of her head, and a medical man whom she consulted made an incision through it down to the bone. The wound, on her admission, presented the appearance of one connected with carious bone, but on introducing a probe, it did not communicate the sensation of striking against diseased bone, but passed very freely under the temporal fascia; and the surgeon who made the incision remarked that it produced much less pain than usual. Her state soon became much worse; she scarcely answered any questions; if told to show her tongue, she would keep it protruded like a person in fever, and frequently if her mouth was opened it was found full of food, as if the instinctive action of swallowing was not performed. She soon began to pass both urine and fæces under her, and became comatose. The treatment adopted was that usually pursued in such cases; leeches were applied, cupping, and large blistering, and she was brought under the influence of mercury. As soon as the mercury began to act on the system, some amendment took place. She recovered from the state of coma, and became, to a certain degree, sensible, so that I had some hope of her recovery. But the improvement stopped short here, and I perceived now, for the first time, that she had a slight degree of paralysis of the right side of her face. She had also slight convergent strabismus, chiefly of the right eye, the pupil of which was dilated. The pulse at first was upwards of 100, but while in the comatose state it fell to 50, and remained at that number until the end of her illness. She again, by degrees, became unconscious, and fell into a profound coma. Before she sank into the coma the second time, the strabismus disappeared, and both pupils became dilated; and when her eyelids were opened, the eyes remained fixed and staring. The right hand was held, with some rigidity, across the breast, and when an attempt was made to raise it there was a certain degree of resistance.

I now held a consultation with my colleagues, which resulted in the opinion that the operation of trephining would not be followed by any beneficial consequence. After remaining in a state of coma for sixty hours, the patient sank. I was anxious to ascertain the condition of the brain which produced these symptoms, and also to discover what was the state of the bone. We found, on removing the integuments, that the pericranium was detached from the bone in the situation of the incision, and that the bone itself was slightly rough. The corresponding portion of the dura mater was easily separated from

the bone, the surface of which was a little rough, but there was no discoloration of either structure. We found, on further examination, a very large abscess occupying the middle lobe of the brain, and reaching the surface so nearly that the greenish colour of the matter contained in the abscess could be seen through the thin layer of cerebral structure. It contained about six ounces of very fetid pus, and was perfectly circumscribed. The brain around the cyst was of its usual consistence, and was everywhere else tolerably healthy. Nature was here doing her best, and if the surgeon had any fair indication, he would have been justified in trephining, and on finding the brain discoloured, in puncturing it. A question here presents itself as to what was the cause of the abscess? Generally speaking, the abscesses in this situation which surgeons meet with arise from caries of the temporal bone, the disease extending to the membranes of the brain, and from them to the brain itself. Here, however, the disease began in the brain itself. The patient was of a respectable family. Four years ago she had been seduced under a promise of marriage; this preyed severely on her mind; she got into low spirits, and became subject to hysterical attacks, in which she sometimes remained for several hours. Soon after this her mother became deranged, and she had to attend her. This was another shock to her mind, and exposed her to much mental and bodily distress. No fact is more familiar to medical men than that any sudden mental shock may cause an attack of apoplexy, &c. I knew a case myself in which a man went to the bank to draw £800; he found the bank closed, and was immediately seized with an attack of paralysis from apoplexy. We may, therefore, fairly conclude, that continued mental anxiety would produce such a disturbed state of the brain, that any slight additional cause would produce the disease of which this patient died. After she had suffered from all this anxiety, she slept one night in a damp bed, and rose in the morning with a severe headach, which she was never afterwards free from.—*Dec.* 3, 1853.

Osteosarcoma of the Head of the Humerus.—Professor R. W. Smith presented an example of malignant disease of the head of the humerus. The morbid action commenced in the interior of the bone, and the surrounding shell of the head of the humerus gradually enlarged into a globular tumour, the surface of which was irregular, and nodulated, and of various degrees of firmness, being in some parts of a cartilaginous hardness, in others of a pulpy consistence and elastic to the feel, but nowhere possessing the firmness of the healthy osseous tissue. The interior of the morbid structure presented the same variety of consistence, being composed of softened bone, fibro-cartilaginous matter, and a gelatinous substance, resembling size; there were also a few small cysts, containing oily fluid; the bony matter was rough and spiculated, and the colour of the morbid growth presented various shades of white and yellow.

The subject of this disease was a female, aged 30. She stated that eighteen months before her admission into hospital she was attacked with a fixed pain in the joint; it did not, however, much inter-

fere with the motion of the limb until fourteen months had passed over, when the upper and anterior part of the articulation became swollen, and motion difficult and painful. The superficial veins became turgid, and the enlarged joint gradually assumed a globular form, and acquired an elastic feel. Latterly she became subject to cough and hemoptysis; she lost flesh, and her aspect was pale and very unhealthy.

About six weeks after her admission into hospital, the limb was removed at the shoulder joint, but upon the day following the operation she had syncope and vomiting, a rapid pulse, foul tongue, ardent thirst, and great restlessness and jactitation; a low, muttering, delirium succeeded, and she died upon the morning of the fourth day after the removal of the limb.—*December* 3, 1853.

Chronic Rheumatic Arthritis of the Wrist Joint.—Professor R. W. Smith exhibited a very remarkable specimen of this disease, affecting the lower extremities of the radius and ulna, and also the first range of carpal bones. The cartilage had disappeared from all the articular surfaces, and the reticular tissue of the bones was exposed, with the exception of the cuneiform, which presented a highly-polished and smooth surface, like that of ivory; it was in contact with a similar surface upon the end of the ulna, the triangular cartilage having been absorbed. The scaphoid bone was greatly enlarged and flattened,—it measured an inch and a half in length, and an inch in breadth. The enlargement had taken place chiefly towards the dorsal surface of the wrist. The semilunar bone was also much enlarged, and its centre was traversed by a complete solution of continuity. Several foreign bodies (one of which was as large as the pisiform bone), were connected with the dorsal margins of the semilunar and cuneiform bones and adjacent ligamentous structure. There were likewise two connected with the anterior annular ligament and with the palmar aspect of the semilunar bone. The pisiform bone was hypertrophied.

The lower end of the radius was of immense size, being two inches in extent from side to side, and one inch and a quarter from before backwards, and the palmar margin of the articular surface was fringed with large and very irregular stalactite osseous growths. The portion of the surface which was in contact with the anterior division of the pyramidal bone was slightly polished.

The inferior radio-ulnar joint was also implicated in the disease, the articular surface upon the radius being an inch in its antero-posterior diameter, its vertical extent being three quarters of an inch. The lower extremity of the ulna was similarly altered, and its flattened styloid process had become articular, and rested upon the enlarged cuneiform bone.

The external appearances of the joint, before the integuments were removed, resembled very much those which have been described by surgical writers as marking the luxation of the lower ends of the radius and ulna backwards. The patient was a female of advanced

age, and the disease had been supposed to be the ordinary caries of the radio-carpal joint. The chronic rheumatic disease, of which the wrist presented so striking an instance, had also established itself in metacarpo-phalangeal articulations.—*December* 3, 1853.

Aneurism of the Aorta opening into the Pericardium.—Dr. Neligan, in exhibiting a specimen to the Society, stated that it was chiefly interesting on account of the morbid appearances, as but very little was known of the history of the case. A man was found in the street by a policeman, lying with his back against a wall; he was then breathing, but insensible. He was immediately conveyed to Jervis-street Hospital, but died before he reached the the hospital. On examining the body the following morning, there was found on opening the thorax about half a pint of a clear, transparent fluid in the left pleural cavity, and the pericardium was distended to an extreme degree. This distention was caused by a quantity of serous fluid, slightly tinged with blood, together with a large coagulum. The heart was rather small, as if thereby compressed, and presenting more fatty deposit than is usually present. The man appeared in tolerably good condition, and about twenty-eight years of age. At first sight the case resembled an example of rupture of a fatty heart; but on further examination there was found, immediately above the origin of the aorta, a small aneurismal sac, and on its most prominent point a minute orifice just sufficient to admit a hair bristle. The sac was peculiar in shape, about the size of a small hazel-nut, with a depression along the centre, so as to give it a mammillated aspect. On examining it internally, the inner and middle coats of the artery were evidently quite deficient in two spots, the pericardium there forming the only covering for the blood. The cause of death was manifestly rupture of the sac and the slow escape of blood into the pericardium. On inquiry it was ascertained that this man had never been ill, had never complained in any way, not even of cough, although he was exposed to great hardship and want. His death seems to have been more rapid than is usual in the analogous cases which have been recorded, as his wife stated that she left him two hours before in perfect health. Dr. Neligan further exhibited the morbid appearances in a similar case, for the opportunity of laying which before the Society he was indebted to his colleague, Dr. Banon. The case occurred in a man named Thomas Murphy, of intemperate habits, a carpenter, who was admitted into Jervis-street Hospital on the 25th of June last, at 1 o'clock P. M. His friends gave the following account of him:—In early life he was subject to epilepsy: the fits ceased about seven years previously. Since then he had suffered constantly from pain in the chest, which had not produced any serious consequences. Half an hour before admission, while at work, he was seized with a sudden pain about the heart, and immediately became insensible. When brought to hospital he was cold, pulse almost imperceptible, and countenance extremely anxious. He was treated with stimu-

lants, and lived for five hours. There was no external lesion; the organs in the abdominal cavity were all normal; the lungs were adherent to the costal pleura and pericardium. Above the semilunar valves there was a small aneurism, about the size of a walnut, and in it a jagged opening sufficient to admit a small probe. The pericardium was distended with serous fluid with coagula. These two cases, then, were precisely similar, but death was much more rapid in the case first narrated, although in it the aneurism and the opening into it were smaller than in that which occurred in Dr. Banon's practice.—*December* 10, 1853.

Cirrhosis of the Liver.—Dr. Gordon presented a recent specimen of cirrhosis of the liver, together with a cast of the organ. The patient from whom it was taken was a boy of about fifteen years of age, who had been suffering from an affection of the liver since he was five years old. At that time he was jaundiced, and was treated for inflammation of the liver; and since then he had been subject to epistaxis and occasional diarrhœa. About two years ago all symptoms of delicate constitution disappeared, and he was apprenticed to a trade, which he steadily followed until June last, when he came to the Whitworth Hospital, complaining of debility and epistaxis. He had a few spots of purpura over his body, but he had neither jaundice, dropsy, pain in the shoulder or side, nor any other symptoms from which disease of the liver could with any degree of certainty be inferred. The skin was dry, harsh, and constantly covered with furfuraceous scales. He was treated in the hospital for six months, and then discharged convalescent. He again applied for admission on the 31st of November last. That morning he had been suddenly seized with hematemesis, and the evening before he had a recurrence of the bleeding from the nose. He was exceedingly faint, and was further weakened by diarrhœa. That night he got up to take a drink, complained of a sudden weakness, went back to bed, and threw up a large quantity of blood, and expired almost immediately.

The liver was of small size, and presented the usual and well-known anatomical character of cirrhosis. The spleen was slightly enlarged. There was neither anasarca nor ascites.—*December* 10, 1853.

Pendulous Tumour removed from the Labium.—Dr. Fleming exhibited a tumour removed from the right labium of a female aged 20, who was admitted into the Richmond Hospital on the 7th of last month. The history she gave of her disease was, that about four months previously she felt a small tumour at the upper end of the labium; that within the period of three months it acquired the magnitude represented in the plate; but that for a month previous to her admission it did not appear to have increased in size. It was extremely distressing to her in walking, and had caused considerable irritability of the bladder. The catamenia were irregular and

uncertain. The tumour was pyriform, but constricted near its centre, the upper portion being about the size of a hen's egg, while the lower was as large as a goose-egg. The integuments were natural in colour, and not adherent to the tumour, a portion of which projected into the vagina, and appeared almost semi-transparent. It had the feel almost everywhere of a firm, solid tumour; but the lower portions of it in one situation gave an obscure sensation of fluctuation. Into this portion a puncture was made, but nothing flowed except a few drops of serum tinged with blood.

The woman being exceedingly anxious to have the tumour removed, the operation was performed soon after her admission into the hospital. A longitudinal division of the integuments was made, when the tumour was found to be contained in a capsule, surrounded by much loose cellular tissue. It was easily separated from the wall of the vagina on the inside, and from the labium on the outside, but a considerable portion of it was then found passing up towards the sacro-sciatic ligament: this was separated chiefly by traction. The wound healed favourably.

A section of the morbid growth showed that it belonged to the class of fibro-cellular tumours; it presented a uniform appearance throughout, and was very vascular; it was of rather loose texture, but it did not contain any cavity. Mr. Lawrence has described this form of tumour of the labium in the Medico-Chirurgical Transactions; and Mr. Paget, in his recently published work on Surgical Pathology, has given a good account of it. When recent, it had very much the aspect of an immense gelatinous polypus, and resembled the gelatinous sarcoma of Rokitansky.—*December* 10, 1853.

Contraction of the left Auriculo-Ventricular Opening.—Dr. Banks exhibited a specimen of this disease, taken from the body of a girl aged 18, who was admitted into the Whitworth Hospital on the 7th of November. She was a dressmaker, and stated that for three years before the time of her admission she had not been in good health. She was peculiarly ill-developed for a person of her age; she did not appear to be more than ten or eleven years of age. She had a badly formed chest, and had never menstruated. Three years before admission she first suffered from palpitation of the heart. On the least muscular exertion her heart beat violently, and her breathing became difficult. She worked at her trade for more than a year, and then applied at a dispensary for medical assistance, but derived no benefit from the treatment that was adopted. About six months before admission the palpitation and difficulty of breathing became so severe that she had to give up her work; and three months ago, for the first time, she perceived her ankles to swell. This gradually increased, and extended until the whole body became anasarcous, and ascites set in. On admission, she presented the following symptoms:—Her countenance was extremely livid, her lips of a deep purple, and her ears of a purplish hue, and the dark livid-

ity of imperfectly decarbonized blood was mixed with the icteroid hue arising from a diseased liver.

On turning our attention to the heart we found the area of dulness greatly increased, particularly towards the right, the impulse abnormally distinct, lower down than natural, and very strong towards the xiphoid cartilage. On placing the hand over the heart, a distinct *frémissement* was perceived, a loud *bruit* taking the place of the first sound, very audible at the apex, but not at the base of the organ; the second sound was inaudible. She laboured under extreme difficulty of breathing, which gradually increased, until at length it amounted to complete orthopnœa. She was then attacked with severe bronchitis; both moist and dry râles were audible over the whole chest, and there was dulness over the inferior and posterior portions of the lungs; she had also diarrhœa. The urine was extremely scanty and high-coloured, had a copious sediment, and contained a notable quantity of bile. Her symptoms increased rapidly, and she died on the 8th of this month.

Autopsy.—On opening the abdomen, we found a considerable amount of effusion into the cavity of the peritoneum. The liver was much enlarged, and gorged with blood. The pericardium contained six or seven ounces of fluid; the heart was considerably enlarged; the walls of the right ventricle were much thickened, and its cavity greatly increased. The right auricle, also, was much enlarged and hypertrophied, and four fingers could easily be passed through the right auriculo-ventricular opening. The walls of the left ventricle were also hypertrophied, but there was a diminution of the natural size of the cavity. The left auriculo-ventricular opening was so much contracted that it barely admitted the end of a probe. The left auricle was thickened, and its lining membrane of a yellow colour.—*December* 10, 1854.

Ulceration of the Intestines.—Dr. Brady exhibited a specimen of ulcerated intestines, taken from the body of a man who died on the sixteenth day of fever. He was a prisoner, committed for a long term, but only in confinement for six months, when he was taken ill. He presented himself at the prison hospital as an out-patient, on the 18th of November last, and stated that, having exposed himself while heated, he had caught a cold. He was admitted into the hospital, and a mild purgative directed, as his bowels had not been freed for several days.

Upon the third day he had the kind of aspect of a man taking fever; his pulse was quick, and he had some heat of skin; but no alarming symptoms occurred until the fifth day, when he was found lying on his back, much prostrated; he was slightly deaf; his skin had assumed a dusky-yellow colour, and he had the greatest repugnance to food of any description; he had also diarrhœa, tenderness on pressure round the umbilicus, and extending from thence across to the right iliac fossa. On placing the stethoscope over the heart, there was scarcely any impulse perceived; the first sound was

slightly heard: it might have been supposed, from its remoteness and weakness, that it was a fœtal heart.

He was immediately ordered stimulants, and for a few days he improved, but the diarrhœa still continued. On the sixth day, when questioned, he wandered in his replies, but this seemed to arise from the deafness; but he never had any regular delirium, subsultus, or stupor. He sank gradually, and died without the occurrence of any nervous symptoms.

On dissection, numerous ulcers were found throughout nearly the whole extent of the ilium, reaching to the very limits of the valve; the typhous deposit was in great quantity, just beginning to shrink and separate in some places, in others detached; the glands, also, were diseased; the heart was pale, soft, and flaccid; the walls of the left ventricle were exceedingly thin, and the cavities were dilated. While the heart was acting in the feeble manner described, the pulse was full and large, but soft: a contrast first alluded to by Dr. Stokes.—*December* 17, 1853.

Foreign Substance passed from the Intestines.—Dr. Corrigan detailed the following case as one highly illustrative of the valuable assistance afforded by the microscope in the diagnosis of disease:—Mary Gray, a cook, was admitted under my care into the Whitworth Hospital on the 6th of December. She came in to be relieved of tape-worms, of which she asserted she had passed several joints within the last four months. She also complained of loss of appetite, sickness in the morning, thirst, headach, and irregular bowels. From her appearance, and the circumstances in which she was placed, it was not by any means probable that she was a malingerer. She had taken turpentine and kousso. She was told to keep the first specimen of the worm that she passed. In a few days she presented herself with a number of fragments, some square, others oblong; they were of a brown colour, and elastic, but tore readily into fibres when pulled laterally; they were obviously not specimens of tænia. There were neither oviducts present at the edges, nor any ovaries in the centre. On examining the abdomen I found an oblong tumour, an inch in diameter, over the region of the sacrum. I then submitted the fragments to microscopical examination, assisted by Dr. Lyons and Dr. Frazer. They were found to present fibres, with curved extremities; and, upon examining with a very high power (magnifying 500 times), the fibres appeared tubular. In their form they seemed closely to resemble the fibres of the ligamentum nuchæ, the appearances of which are so peculiar as to distinguish them from all other fibres, except those occurring in similar structures, as in the strong ligament of the abdomen in the elephant, of the wing in the eagle, and that in the neck of the giraffe. In Queckett's beautiful work there is a drawing of these fibres. I placed under one microscope a portion of this substance, beneath another some of the ligamentum nuchæ, and under a third a portion of arterial tunic. These structures so closely resembled one another that an examina-

tion left no doubt of the nature of the supposed tape-worm. Purgatives were administered every second or third day; and, as far as far as I can discover, no remnant of the tumour is now perceptible. Whether the tumour was formed by portions of this substance, collected in a diverticulum, or in the cæcum, I cannot say. The patient's habit of life, and the circumstances in which she was placed, made it very probable that she was in the habit of swallowing portions of this substance. This instance I thought worthy of record as an example of the assistance that the microscope affords us, and that if a similar case should ever occur where malingering might be suspected, this case might be on record to afford an explanation of symptoms that might otherwise cause an unjust suspicion.—*December* 17, 1853.

Aneurism of the Aorta, opening into the Pericardium—Dr. Gordon exhibited a specimen of aneurism of the thoracic aorta, taken from the body of a lunatic, who had been under daily observation as an inmate of the Richmond Asylum for twenty years. He never during the whole of this long period complained of illness, was a hard-working man, and constantly employed. On Friday last, shortly after having eaten a hearty dinner, he experienced a sense of faintness and sinking in the cardiac region. He was carried to his bed in a state of collapse, but rallied under the use of stimulants. The next morning he seemed better, and partook of some food through the day, but in the evening he sank, and died thirty-eight hours after the commencement of the attack.

Upon examination after death, the pericardium was found to be greatly thickened, and throughout a great portion of its extent its cavity was obliterated by adhesions. The aorta was much diseased, and immediately above the valves was dilated with an aneurismal pouch as large as a goose-egg, and directed downwards and forwards towards the right side; it had given way by a small lacerated opening, through which the blood had escaped into the non-obliterated portion of the sac of the pericardium,—*December* 17, 1853.

Disease of the Aortic Valves.—Dr. M'Dowel detailed the following case:—About ten days ago a man presented himself amongst the extern patients at the Whitworth Hospital, labouring under extreme dyspnœa, and having the appearance of one who had not long to live except something could be immediately done to afford relief. His lips were livid; he breathed with great difficulty, and his voice was inarticulate and weak, so that it was quite impossible to obtain an accurate history of the case. We were, however, able to learn from him that for some months previously he had laboured under palpitation of the heart, and that for a much longer period had had vague sensations referred to the same region. His pulse was full, hard, and throbbing, and was characteristic of patency of the aortic valves, whatever other lesion there might co-exist with it. Over the whole of the sternal region a loud and distinct double bellows murmur was heard. After his admission he at first improved

slightly, but the paroxysms of dyspnœa soon returned, resembling somewhat the intermittent attacks of angina. In one of these, which came on in the night, he suddenly expired.

Autopsy.—On opening the thorax the lungs did not collapse. There was universal bronchitis. The whole of the lining membrane of the bronchal tubes was of a bright violet hue, and the tubes themselves were filled with a viscid and frothy mucus. The heart was generally enlarged; the right cavities were, for the most part, healthy, but the right auriculo-ventricular opening was much dilated, and a firm fibrinous clot extended from the right auricle into the right ventricle. The walls of the left cavities were much thickened, especially those of the left ventricle, which also appeared much longer than natural. There was extensive disease of the aortic valves, allowing free regurgitation. We found, in addition, what I consider to be a congenital malformation of the valves. After the most careful examination I could find only two aortic valves. There is no appearance whatever of a third valve having ever existed. They are of equal size, but nearly double as large as natural, and the diseased condition is different in each; in one the valve is, to a certain extent, torn from its attachments, and must have flapped up and down with the efflux and regurgitation of the blood; while the other presents a very large warty vegetation, is much attenuated, and perforated by two openings of considerable size.

I think that this combination of disease, with malformation of the aortic valves, has not been exhibited at any of our previous meetings. Dr. Graves formerly laid before the Society a case in which there existed but two valves, but they were not in a diseased condition. An instance of it was detailed before the London Pathological Society, and some remarks have been made on the subject by Dr. Peacock, of London; it has also been discussed by the Edinburgh Pathological Society. The malformation has been supposed to be not an original, but an acquired one, namely, as the result of disease, according to some, existing in the fœtus in utero; according to others, of disease occurring in early childhood, by which the septum between the valves is broken through; but in the specimen before the Society, the circumstance of the two valves being of equal size militates against these views. I agree in the opinion that has been stated, that this malformation, whether as in this case, original, or acquired as the result of disease, must produce a great liability to further change.—*January 7th*, 1854.

Scrofulous Disease of the Knee Joint in its early stage.—Mr. Hamilton gave the following account of this case, and showed the recent specimen:—

A young boy was admitted, about five months ago, into the Richmond Hospital, complaining of an affection of the knee; he walked a little lame; there was some elastic puffy swelling on both sides of the patella, slightly increased heat of the joint, and slight pain on motion; after he had been in hospital for a couple of days, he

complained of very violent pain in the left infra-clavicular region; he was evidently suffering under an acute attack of pleuritis; there was a very loud *frottement*, and mixed with it signs of the existence of a cavity, viz.,—gargouillement, cavernous respiration, and considerable dulness on percussion. After the acute symptoms were subdued, he went through the ordinary course of phthisis, and died on Thursday last. The knee during this period underwent no change, the more fatal disease seeming to arrest the progress of the other. On making a section of the joint after death, it was found that the synovial membrane was converted into a fleshy substance, of a yellowish pink colour; it extended over the articular cartilages, but was more remarkable on the condyles of the femur, than on those of the tibia. The cartilage was not ulcerated in any point, nor was there any alteration of the synovia; the disease consisted merely in a thickening of the synovial membrane. The osseous tissue was more vascular, and a little softer than natural.—*January* 7, 1854.

Cirrhosis of the Liver.—Dr. Banks detailed the case of a boy aged 14, who was admitted into the Whitworth Hospital in February, 1853, having been delicate for a considerable time previous to his admission, but no satisfactory account could be obtained of his symptoms. He was anemic and much emaciated; his limbs were small and very thin, and his abdomen exceedingly enlarged. On examination, this enlargement was found to be caused by two tumours,—the one on the right side of the abdomen, extending to below the umbilicus; the other on the left, reaching to the crest of the ilium; the former, an enlarged liver; the latter, an hypertrophied spleen. He had attacks of epistaxis, recurring about every ten days, and on each occasion lost from three to six ounces of blood. The blood was frequently examined by Drs. Lyons and Frazer, but without finding any excess of white corpuscles. Occasionally spots of purpura appeared over his body. On the 23rd of December he complained of uneasiness about the throat; his voice having been hoarse for some time previously; and in the evening he had dyspnœa and stridulous breathing, and the neck was swollen, but there was no distinct fluctuation to be felt. On Wednesday last he became delirious, towards evening comatose, and died the following day.

On examining the body, a considerable amount of disease was found. There was copious effusion into the sac of the arachnoid and into the ventricles, and the brain was rather softer than natural. In front of the larynx there was some purulent matter, so thick that it could with difficulty be removed with a syringe. The interior of the larynx presented a livid and vascular appearance, which extended into the bronchial tubes. In the cavity of the abdomen there was not more than one or two ounces of fluid; the liver, which was of great size and density, presented a striking specimen of cirrhosis; it weighed four pounds and a half. The spleen also was very large, and of a dark violet hue; it was very dense, and admitted of

being cut into very thin slices, which had a granular appearance; it was adherent throughout a great extent to the stomach, and weighed two pounds and three quarters. In this case, Dr. Banks remarked, the main features of interest were the occurrence of cirrhosis of the liver at so early an age, and the size of the organ at so advanced a stage of the disease.

Some researches have recently been published by Christiansen of Copenhagen on this subject. In all his cases there was hemorrhage from the bowels, tormina, and on examination after death blood was found in the intestinal canal. None of these symptoms were present in the case before the Society.—*January* 7, 1854.

Glandular Tumour of the Neck.—Professor R. W. Smith gave the following account of a tumour removed after death from the neck of a female aged 64. The patient who was the subject of this disease, stated, that twelve years before the date of her admission (September, 1853) into the Richmond Hospital, a small movable and painless tumour formed upon the right side of her neck near its centre; its growth was very slow; at the end of four years it was not larger than a small egg; at that period she came into the hospital for a short time, but I do not know what opinion was entertained of the nature of the tumour; no attempt, however, was made to remove it by operation. From year to year it gradually enlarged, and several smaller tumours formed along the upper part of its circumference; these contained fluid, and were punctured upon several occasions. The great bulk of the original disease was solid and hard, and gradually acquired an uneven surface.

When she was admitted into the hospital, in September last, the tumour was larger than a full-sized orange, remarkably firm to the feel, nodulated and immovable in the vertical direction, although it could be rather freely moved transversly. Around its base were numerous cysts, evidently containing fluid; they were now of considerable size, and along with the solid portion of the tumour, constituted a morbid growth, which reached upwards to the mastoid process, and forwards to the middle line of the neck; there was now also severe pain, especially distressing at night, and some dyspnœa from the interference of the tumour with the motions of the larynx. These cysts were punctured from time to time, by which the size of the tumour was much diminished, and the pain and distress of breathing relieved.

A consultation was held upon the case, when it was decided not to attempt the removal of the disease by operation, as the tumour evidently had some very deep attachments, which would most probably have rendered the completion of the operation impossible. The skin was also so thin, and so closely united to the surface of the tumour, that it would have been necessary to have removed so great an extent of it, that not more than half the wound could have been covered. The advanced age of the patient, and her disinclination to submit to operation, were also considered, and, along with the other

circumstances which have been mentioned, led to the decision against attempting it, although in all probability the disease was not of a malignant character. Upon this point I was unable to form a positive opinion, but was inclined to believe in the non-malignant nature of the tumour from the slowness of its growth, the absence of any evidence of contamination of the system, the unimpaired state of the woman's health for so long a period, and from the circumstance that, although the cysts, after having been punctured, suppurated and formed ulcers upon more than one occasion, yet these ulcers healed favourably, and never showed any tendency to produce fungous growths.

For some time before death the pain was excessively severe; and upon one occasion a protracted attack of vomiting occurred, which, however, completely yielded to treatment. Towards the end of December, suffocative catarrh established itself, under which the patient sank, and died a few days since.

Upon examination after death, the tumour (which was covered by the sterno-mastoid muscle) was found to have passed down among the deep structures of the neck, and to have become closely adherent to the upper part of the carotid artery; it reached upwards to the mastoid process, and was continuous with the parotid gland behind the angle of the jaw. In consequence of the destruction of its cystic portion by suppuration, as already mentioned, it was not much more than half as large as it was when the woman was admitted into the hospital.

The structure of the tumour was carefully examined by Dr. Lyons. It was found to present a strong fibrous basis, in parts hard, dense, and shining; a large number of loculi existed in it, varying in size from a couple of lines in diameter to half an inch; they were filled with a soft, granular matter, varying in colour from pink to red, and having very much the appearance of mashed strawberries. Under the microscope there was observed an abundance of granular matter; bodies of the size of small cells, isolated and aggregated; quantities of blood corpuscles; also blood-vessels; free and nucleated cells, some isolated, others grouped in various ways. The next element, found in abundance, showed what the nature of the tumour was, viz., masses of a tubular appearance, filled interiorly with cells. These masses were evidently the broken-down tubes of a glandular structure, existing through the strawberry-like mass, leaving no doubt that the tumour originated in the cervical glands, which subsequently were broken down by the infiltration of various matters. In one portion there existed a calcareous structure, a form of degeneration to which these tumours are liable.—*January 7th*, 1854.

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.

SESSION 1853–4.

First Meeting, Tuesday, 29th November, 1853.

Dr. Churchill delivered an Introductory Address from the Chair.

Dr. M'Clintock exhibited a specimen of a large fibrous tumour in the right labium, the removal of which had been performed by Dr. Brunker of Dundalk. The morbid growth, which equalled the size of an orange, was perfectly globular, and extremely dense and close in structure. At its most dependent part the labium was ulcerated over an extent of surface that a dollar would cover; this ulceration involved the entire thickness of the labium covering the tumour, and exposed the surface of the latter. The patient from whom this labium externum was removed was about forty years of age, and had borne several children. Fifteen years had elapsed since she first perceived any enlargement of the part, and she had experienced no sort of annoyance from it, beyond what simply resulted from its weight and bulk. Dr. M'Clintock drew attention to the fact of its having been the right labium in which the tumour was situated; adding, that in his own, and in the recorded experience of Dr. Robert Lee, the right, and not the left labium, had almost invariably been the one, to which a preference was given by morbid growths, whether of a fibrous nature, or of the encysted and much more common kind.

Dr. M'Clintock next related the history of a case of vaginal polypus. The subject of it was a healthy, stout woman, aged 23, who was seven months pregnant of her first child. Upon making some unusual exertion in running she felt a tumour descend from the vagina, and remain beyond the vulva. Being servant in a house where Dr. M'Clintock was at the time in attendance, he was asked to look at her, and on examination found that a polypus of considerable size, having its origin from the posterior wall of the vagina, had become prolapsed beyond the ostium vaginæ, and was there retained in a condition bordering on strangulation, thus productive of much pain to the patient. With very little trouble it was returned within the vagina, when all annoyance ceased. As this woman had no place of her own to go to during the removal of the tumour, admission was obtained for her into the chronic ward of the Lying-in Hospital, where Dr. Shekleton applied a ligature around the pedicle in the usual manner, and the polypus came away in a few days without any unpleasant symptom. She went to the full term, had an easy labour, and most favourable convalescence. Dr. M'Clintock said that, with the permission of Dr. Shekleton, he was induced

to bring this case before the Society, as polypus of the vagina was of such very rare occurrence.

Dr. Churchill then exhibited to the Society an instrument which he thought might be useful for removing the ovum when it protrudes just through the os uteri in cases of abortion, and especially in those cases where an undilatable condition of the vagina forbids the introduction of more than one finger. The instrument[a] consists of a steel rod (electro-plated) passing through an elastic catheter. One end of the steel rod is divided into three prongs, curved at their points, and divaricating, but closed by sliding the catheter towards the end. At the upper end, the catheter is guarded by a silver rim, and at the lower, it is furnished with rings, by which it can be moved up and down with one hand. The instrument, guided by the fore-finger, is to be passed up to the protruding ovum, and the catheter being withdrawn so as to allow the points to separate as widely as needed, the ovum is to be carefully caught, and the instrument again closed withdrawn. If the ovum be not very much decayed, or very adherent, it will be brought away. Through the kindness of Dr. Shekleton an opportunity was afforded of testing the instrument after the meeting of the Society, and, although the ovum was much decomposed, it was brought away with the greatest facility.

Dr. Churchill also laid before the Society a new form of pessary[b], which acts by distending the vagina upwards. It is made of rod gutta percha, about a sixth of an inch in diameter, and forms an arch at the upper and lower extremity. The lower extremity is bent forward, so that a lateral view somewhat resembles the letter L, with the posterior angle rounded. The upper arch is to be passed behind the os uteri, and the lower is seated on the anterior edge of the perineum. The size of the instrument must be adapted to each patient. Dr. Churchill mentioned that he had used it in cases of prolapsus uteri, and in one case of retro-version, with great benefit.

Second Meeting, 31st of December, 1853.

Dr. George Johnston laid before the Society a case which came under his notice while "assistant" in the Dublin Lying-in Hospital, and which, from its very unusual occurrence, would, he had no doubt, be considered of some interest,—it was "inversio uteri," taking place during labour.

Esther Page, aged 19, a thin, delicate-looking woman, of fair complexion, was delivered of her first child, a healthy girl, on the 31st of July, 1851. Her labour so far was easy, and of about six hours' duration. The gentleman in attendance, after having tied and separated the funis, had maintained the contraction of the uterus with the hand above the fundus—in accordance with the usual

[a] See Plate 2 B.

[b] See Plate 2 A.

practice of the hospital—for about a quarter of an hour, when finding a tendency to "draining," he increased his pressure; but, as he said, not nearly to the extent it has been, on frequent occasions, found necessary to employ, in order to assist in the expulsion of the placenta, or restrain hemorrhage. The uterus was felt suddenly to yield and recede from his grasp, and he immediately saw it expelled from the vagina, an inverted mass, with the placenta still attached. Dr. Johnston was at once sent for; on his arrival he found the woman pallid, exceedingly anxious, complaining of considerable pain, and a sensation of sinking; the pulse was weak, indeed scarcely to be felt.

Examination proved the uterus to be inverted with the placenta attached to its fundus; the funis was of the ordinary length, and there was then no hemorrhage. Recollecting that the lapse of every minute was of consequence, Dr. Johnston proceeded to replace it at once, which he accomplished in the following way:—He first detached the placenta,—a matter of no difficulty, there being no morbid adhesion,—and he was pleased to find that after it was separated, no hemorrhage followed, owing, he considered, to the constriction the vessels underwent at the cervix; he then restored the cervical portion of the inverted organ, which was easily returned within the vagina, and re-inverted as far as the body; but it was some time (five to seven minutes) before he could reduce the fundus, which required the fingers to be held in a flexed condition against it, while he made counter-pressure with the left hand above the pubis. Some wine had been given to the patient to relieve the sensation of exhaustion, but it was not till the uterus had been restored to its natural state that she could be persuaded her immediate dissolution was not close at hand; ergot was afterwards administered, and she was kept longer in the horizontal position than ordinarily. Milk was secreted on the third day; she made a perfect recovery, and was discharged quite well.

Dr. George Johnston then proceeded to remark as follows:—

"That inversion of the uterus very rarely takes place, is universally allowed by all obstetric writers.

"Denman, Rigby, and Churchill, all agree in believing it to be an accident of 'rare occurrence.'

"Ashwell says—'It *is most rare*,' and in proof states, that in more than 8000 labours occurring in Guy's Hospital, and upwards of 1600 in another charity, there was not a single instance of it; if others were wanting, the records of our own hospital show (according to Hardy and M'Clintock) that, during the masterships of Doctors Clarke, Labatt, Collins, Kennedy, and Johnson, the number of deliveries amounting to 75,911, not one case of this description occurred; and I may add that, subsequent to that period, for three years and eight months of the management of the present master, Dr. Shekleton, 7336 patients were delivered previous to the occurrence of the one I have just related, so that in 83,247 deliveries, there was not a single instance of its being met with.

"But, 'inversio uteri,' although rare, is nevertheless considered to be one of the most formidable complications that affects the lying-in patient, being attended with very alarming symptoms, and threatening the most serious consequences. For instance, the patient is found complaining of excruciating pain, with a sense of sinking and extreme exhaustion; an almost imperceptible pulse; a countenance expressive of great anxiety and collapse, together with nausea, vomiting, and sometimes hemorrhage and convulsions; in fact, the symptoms in a case of inversion resemble in many points those attendant on rupture of the uterus; but this former accident can be generally distinguished from rupture by the period at which it takes place, viz., after the birth of the child; by the sudden recession of the round, circumscribed tumour, if the uterus be grasped after the delivery of the child, or its absence, when searched for. All doubt is set at rest by finding a globular fleshy body occupying the os uteri, if the inversion be partial; or protruding quite through the os and vulva, if it be complete; thus forming, as it were, a sac lined by peritoneum, a diverticulum from or extension of the abdominal cavity, filled by the small intestines. It is this sudden evacuation of so large a portion of the contents of the abdomen, which produces that severe shock on the nervous system, from which there is great danger the patient may not rally, death in more than one instance having been the result.

"This accident has been attributed to various causes, viz.:—

"1. To undue pulling at the funis for the purpose of extracting the placenta before it is completely separated.

"2. To an over-amount of pressure with the hand on the fundus uteri.

"3. To too rapid delivery, especially if the woman be standing at the moment of the quick expulsion of the child.

"4. To the cord being too short, or twisted round the neck or body of the child.

"5. To violent straining during the last pains; violent efforts, as coughing, vomiting, sneezing, or by sudden attempts to rise in bed, by which the abdominal muscles are put into violent action.

"6. It may take place spontaneously.

"That it may be produced by the two first causes, no doubt at all exists, particularly the first—'if,' as Dr. Ramsbotham observes, 'the placenta be adherent to the fundus; if the adhesion be strong; if the funis does not give way to the force applied to it; and if the uterus be flaccid, and has not contracted round the mass.' And with regard to the second, Rigby goes so far as to say: 'If immediately after delivery, especially where the uterus has been suddenly emptied of its contents, any *force* be applied to the fundus, it may easily be pushed down into the cavity.'

"That it may result from the occurrence of too rapid delivery, especially while the woman is in the erect posture, is possible: but such cases of delivery have frequently come under the notice of

those connected with the Dublin Lying-in Hospital, and yet no such accident has taken place.

"As to shortness of the cord, or the twisting of it round the neck of the child, numerous instances of the kind could be brought forward where there was no attempt at inversion.

"That violent strainings or efforts, or sudden attempts to rise in bed, have been the cause of this accident, instances are given by Cazeaux: one, where complete inversion took place nine hours after delivery, from rising to the night-chair; another, where complete inversion resulted twelve days after delivery, in consequence of straining efforts at stool. Lastly, that it occurs spontaneously; an instance is given in the author's notes on Denman, where, after the funis had been divided, and the doctor engaged with the child, not the slightest extension having been made on the cord—'in fact, it had not been touched by the hand'—the uterus was inverted, with the placenta attached.

"Dr. Rigby, in giving a case of this description, says: 'The descent was so rapid, and forcible through the os externum, that it would have been quite impossible to have resisted the unnatural action by which the organ was carried down;' and Ruysch saw it take place after the expulsion of the placenta, although delivery had occurred in the most favourable way.

"The predisposing causes of inversion are, according to Radford, owing to atony of the uterus, or active constriction of one part, with an atonic condition of another.

"Dr. Tyler Smith says it depends upon an irregularly active and a very unusual condition of the uterus, by which the fundus is first depressed, then carried downwards by the annular contraction of the organ, and finally completely inverted.

"Cazeaux states, that the uterus, being for a moment in a condition of inertia, the pressure or weight of the intestinal mass upon the fundus may depress it like the bottom of a bottle; and when the placenta is inserted directly on the superior part of the uterus, its weight alone may (in a case of complete inertia) draw down the fundus. This, he says, however, generally corrects itself by the contraction of the viscus; but if (this depression not being perceived) traction is made on the cord, or pressure on the fundus, it may be greatly increased, and converted into complete inversion: this was probably the cause in the case just narrated.

"With regard to the treatment of this accident, it is universally agreed upon, that the immediate reduction of the inversion is the best practice, when 'we find'—as Denman remarks—'no difficulty, or very little, in restoring the uterus to its perfectly proper situation.' But difference of opinion exists as to the mode of acting when the placenta is still adherent to the uterus; some recommending the returning of the tumour before detaching it. For example, Newenham advises 'returning the uterus first, and exciting it to throw off the placenta afterwards in the usual way; 'which,' he says, 'will have good effect in bringing on that regular and natural con-

traction which is the hope of the practitioner and the safety of the patient: that the removal of the placenta first, in order to diminish the bulk of the inverted fundus, cannot possibly be attended with any beneficial consequences, whilst the irritation induced by such a proceeding will necessarily tend to bring on those pressing-down efforts which would present a material obstacle to its reduction, and would increase the hemorrhage at a period when every ounce of blood is of infinite importance.' Denman goes half way with the above maxim, for he says—'If the placenta be partly separated, it will be proper to finish the separation before we attempt to replace the uterus; but if the placenta should wholly adhere, it will be better to replace the uterus before we endeavour to separate the placenta.' And his reason he asserts to be,—'That while we are separating the placenta, the cervix of the uterus is speedily contracting, and the difficulty of replacing it increasing, which is a far greater evil than a retained placenta.'

"Now, though Dr. Newnham's and Dr. Denman's ideas may be perfectly correct in cases where the uterus is partially inverted, that is, where the fundus only is displaced, nevertheless, in cases of complete inversion, although we find Dr. Williams saying, that 'the organ, with the placenta still adhering, was promptly returned to its proper situation,' Dr. Merriman states, that the mass of the placenta was the chief cause of the difficulty in a case which he has related. 'I tried,' says he, 'to effect the reduction without removing the placenta, but could by no possibility accomplish it till I had first separated the placenta; this being effected, I succeeded to my entire satisfaction in re-inverting the fundus.'

"For my part I am of opinion that, in cases of complete inversion, it is the best and simplest treatment to detach the placenta in the first instance (which is easily, and in a very short time accomplished), and then to re-invert the uterus, a matter also of but little difficulty, as it is then much diminished in bulk. The objection that Denman raises to this practice is not, I conceive, a very strong one; for 'the time' it takes to peel off a placenta, under these circumstances would be far less than that which would be occupied in trying to force so large a body as the placenta with the uterus back through the vagina and os. As to the occurrence of an increase of hemorrhage from thus proceeding, I consider there is no danger, or at most but trifling. Even Dr. Denman, in the history of the case, where he pursued this line of treatment, informs us, that 'the hemorrhage was not profuse,' and 'that regular and natural contraction,' which, as Dr. Newenham observes, 'is the hope of the practitioner, and the safety of the patient,' is, I think, more likely to be produced when the uterus is empty, than when it still contains the foreign body, which its efforts to expel had been the cause of the production of that very displacement we are called upon to remedy. The placenta having been detached, we proceed to reduce the tumour by grasping the body of the organ, and pushing it with the vagina in the axis of that passage, continuing this pressure till

we meet the os, when the first obstruction presents itself; but, by the steady maintenance of our pressure, and by moulding, if I may so express myself, gradually and progressively, first, the cervix, and then the body through the os, we complete the reduction by pushing, lastly, the fundus upwards.

"With regard to the manner in which the last stage of the operation is completed, one recommends the fingers to be held in the form of a cone, another spread out at equal distances; but I held them in a flexed condition, pressed against the displaced fundus, and continued steady pressure till that portion was righted; and, in fine, held the hand in the cavity of the uterus, till it was expelled by contraction.

"In the above case I made counter-pressure over the pubis, finding the uterus yield so much from my reach, owing to the relaxed state of the vagina; and my object in administering the ergot was to secure uniform contraction.

"It is said by Cazeaux that inversion of the uterus having once taken place in a labour, there is a tendency to its recurrence at a subsequent delivery, and I regret that in this instance an opportunity has not been afforded of testing this fact."

Dr. E. B. Sinclair laid before the Society another example of the induction of premature labour by means of the water douche. He remarked, that in the Lancet for October 2nd, 1852, a paper was published by Dr. Tyler Smith upon this subject, in which a detailed report of a case was given, where labour was induced by this means. Dr. Smith, before stating the history of this case, remarks that it was the first of the kind that had appeared in England; and Dr. Sinclair observed, that if we had not anticipated England in this matter, we had, at least, followed very close in her wake, inasmuch as Dr. Smith's patient was delivered on the 6th of September, 1852, and four days after, viz. the 10th of the same month, the first douche was applied in the Rotundo Hospital, in the case of the woman, a report of which was presented to the Society by Dr. Atthill at its first meeting last session. Dr. Sinclair further remarked that the douche was used in the Rotundo Hospital a second time for induction of labour in January, 1853, with the history of which operation Dr. Shekleton favoured the Society, and that it was employed a third time for a similar purpose, in the same institution, in the following September; the history of which third operation he then proposed to read to the Society. "The subject of the case," he continued, "now under consideration, was J. M'L., aged 21, of low stature (hardly more than four feet five inches in height), with short arms, diminutive hands, and the same conformation of the lower extremities and feet. She carried herself well, and there was no visible deformity.

"This woman was first admitted into the Rotundo Hospital, as a private patient, on the 8th of February, 1853, at full term of her first child, and on this admission she had a very laborious accouchement.

"The following is an account of her first labour:—She was brought into hospital with the os fully dilated; said to have been in labour twenty-six hours prior to admission; and a considerable period of that time must, doubtless, have been occupied by the second stage. It was found on examination, that the cause of the delay was extreme narrowing of the conjugate of the brim, which was hardly two inches in width, just sufficient to hold the tops of the first and second fingers alongside each other, with their edges directed antero-posteriorly, and not admitting the tip of the third to the same level with the first and second; the sacro-vertebral angle jutted very forward; the transverse diameter seemed to be of the standard measure, perhaps larger; in fact, it was a case of rickety pelvis.

"There being no possibility of her giving birth to a living child, she was at once placed under chloroform, the head perforated, and some of the cerebrum having been evacuated, she was left alone for a time in order that uterine action might mould the head more within reach of the crotchet. With this instrument labour was completed after upwards of thirty hours' duration, and not without considerable difficulty, although the child, a female, was under average size.

"She went out well on the tenth day. The nature of her case was fully explained to her, and the fact impressed upon her that she could never give birth to a living child at full term. Indeed, we considered it unlikely that, should we delay to bring on premature labour much beyond the sixth month, the head would not pass the brim without being lessened; she was, therefore, warned, should she again become pregnant, to make early application to the hospital.

"We saw no more of her till September last, when she made her appearance, accompanied by her mother. She then asserted that she had menstruated for the last time at the end of March, and that she considered herself in her sixth month of pregnancy. It was urged that she should enter the hospital at once, and place herself under our observation, that the operation of induction might not be too far delayed; but neither she nor her mother could be convinced of the necessity of so doing, and they went away.

"I afterwards found out that they left us to consult an eminent obstetric physician; and when he informed them of the importance of being guided by our directions, the patient returned and placed herself under our care.

"Accordingly, on the 26th of September, she was admitted a second time into the hospital, then in about the first portion of the seventh month of gestation; fœtal heart audible. Fearing to delay longer, it was determined forthwith to induce labour, and on the 28th of the same month, at $12\frac{1}{2}$ P.M., by the direction of Dr. Shekleton, I applied the first douche.

"It had been intended, when the next case for induction presented itself, to employ the stomach pump for injecting the water; but Mr. Robertson, surgical instrument maker, of Bachelor's-walk,

in this city, having sent us a bulb syringe, we were anxious to try it, and it was used at the first application, when about two gallons of tepid water were thrown against the os, in the same manner as in the case of Mary Fells, reported in our Transactions for last session; but with this difference, that it was so arranged our patient was not put to the inconvenience of undressing. This application had no marked effect upon the state of the os, save the displacement of a portion of the operculum.

"The bulb syringe employed at this first application is constructed in a manner similar to the cylindrical form of apparatus used by Professor Simpson, the difference being merely that an elastic bulb occupies the place of the cylinder. But if the syphon Dr. Kennedy made use of at the last operation in the hospital (in Mary Fells' case) was distressing to the hand, the bulb employed now was doubly so. It took a considerable time to administer the bath with this instrument; the stream was very much interrupted; no little time was lost waiting for the bulb to fill, previous to discharging its contents; and the power required to accomplish this was very great.

"Dr. Ogle, of Cambridge, who was at the time attending upon the practice of the Institution, and who was kind enough to assist me at the operation, suggested the use of two bulbs and two efferent tubes, ending in one discharge-pipe, instead of the single adjustment, whereby all the labour would not be thrown upon one hand, but each could relieve the other by alternate pressure, and one bulb would be in the process of being filled, while the other was being emptied,—thus saving time. However, if this were accomplished, the stream would be still intermittent; and I was anxious to contrive some instrument which would more nearly imitate the original douche of Kiwisch, whereby the stream might be made continuous, the labour of using it lessened, the force still considerable; the time economized; and yet the instrument not so large as to render it cumbersome. I consequently got Mr. Robertson to construct an apparatus, of which the following is a description[a]:—

"Two cylinders, about five inches in length, and one and a half in diameter, with an arrangement of valves the same as in the old form of cylindrical enema apparatus, and with efferent tubes of any convenient length, communicate by means of two metal tubes at their distal ends,—each tube being about one and a half inches in length, and half an inch in diameter, with a globular metal chamber, one inch in diameter. These short metal tubes enter the small globular metal chamber at an angle sufficiently great to keep the cylinders far enough apart from each other, in order that the hands may have plenty of room to work them. The small globular metal chamber, with which the distal tubes of the cylinders communicate, terminates in a single straight tube, one inch and a half long, and half an inch in diameter; at the end of which tube is a collar, and a valve opening forwards. To the collar of this latter tube is at-

[a] See Plate 2 C.

tached a globular vulcanized India-rubber reservoir, or chamber, about two inches and a half in diameter; and to the distal end of this large elastic chamber is fixed a metal collar, in which there is another valve opening forwards; from the collar proceeds a stop-cock and nozzle, and to the nozzle can be attached, at pleasure, any form of terminating vaginal pipe. By means of this contrivance a constant current is kept up, when once the large India-rubber reservoir is filled; and the stream (if the diameter of the vaginal pipe be somewhat less than that of the nozzle) can be made to play very forcibly against the os; besides, a large quantity of water can be used in a very short space of time. The distress of working it is not near so great as in the old forms of apparatus; the cylinders being just large enough to comfortably fill the hand, it is not cramped; and it is found unnecessary to empty them completely at each compression.

"To return to the case. The douche was not repeated till the 30th, when I used this double cylinder and bulb apparatus. At half-past 12 in the afternoon, two gallons of tepid water, followed by two of cold, were then thrown against the os, in a continuous stream, very rapidly, and with much less distress to the person pumping than on the last application. She felt sick during the flow of the cold stream, had a slight rigor, and after it the os was larger than sixpence; the membranes were felt entire.

"The third douche was given at 5 o'clock, P. M., the same day; about two gallons of tepid water were then used with the same instrument; she complained of labour-pain immediately after it; she suffered much from nausea during the flow of the water, and at its termination the os was found the size of half-a-crown; but the presentation, from the great amount of liquor amnii, could not be felt. Labour having now set in, the cold water was not injected.

"At 10, P. M., the first stage had only progressed one-third; the dilating pains being inefficient, from hypertrophy of the waters, but the os was dilatable. Accordingly, the membranes were ruptured, and two doses of ergot administered in the usual way. The breech was now felt presenting; and more satisfactory pains setting in, it gradually came within reach, when, with the finger between the thigh and abdomen of the fœtus, assistance was given with each uterine effort. She was delivered at 12 at night, on the 30th (seven hours and a half after the last douche), of a small, living, male child; so small that it appeared not quite so large as a fœtus at six months; and, notwithstanding its diminutive size, the head was brought through the brim with difficulty, so much force being necessary that I feared lest I might do it some injury. The placenta came away in a few minutes; there was no tendency to hemorrhage. The woman progressed without a single bad symptom, and was discharged on the tenth day well, but the child lived only four hours."

Dr. Sinclair then took a brief survey of some of the recent cases of induction of premature labour by means of the douche. He drew

attention to Dr. Tyler Smith's case, before alluded to, in which the mode of administering the douche was the same as the original method, by means of a syphon from a height, but differing so far that cold water was alternated with hot, and that in this case labour may be said to have been induced after the fourth application.

To Dr. Atthill's case, where the douche was given in the same way as in the above, save there was no alternation of hot and cold water, twelve douches were found necessary; "which number is stated by Dr. Arneth, of Vienna, to have been the average" in Continental practice.

To Dr. Lacy's case, reported in the Lancet, for December 4th, 1852, where, though the douche was administered precisely similar in every respect as in Dr. Smith's, yet six applications were necessary.

To the case reported by Dr. Shekleton in the Proceedings of the Society, where only three douches were necessary, which was the number used in the one just narrated, and he remarked on the variability of the number of baths necessary to accomplish the purpose; calling attention to the fact that in those cases operated upon by the hand syringe, labour was induced more rapidly than in those treated according to the original system. He also observed, that on looking over these cases he was inclined to attach but little importance to the alternation of hot and cold water, and that he did not consider that any nervous shock so caused, had much share in dilating the os. It was true that some discomfort was felt in Dr. Smith's case when the hot and cold streams commenced to flow, and that at the commencement of the cold current, on one occasion, hysterical symptoms supervening, it had to be discontinued. It was also true that in Dr. Lacy's case discomfort was experienced when the cold current came against the uterus; and that in the case he had narrated nausea and a slight rigor came on when the cold water began to play; but on the second application, when no cold water was used, the patient was *more* nauseated.

Dr. Sinclair considered all these symptoms might have been induced by the premature dilatation itself, and were not precursory, or the cause of that dilatation. With regard to the manner in which the douches gave rise to dilatation of the os, he thought the following *rationale* was, perhaps, the most correct :—That the action of the douche differs only from the first stage of labour in that the mechanical power is applied from without, and that the waters impelled against the os, by external force, have not a membrane covering them, and that in consequence of their not being thus confined, not only is the aid of an adaptable wedge secured, but there is also the advantage of a gentle force to detach the membranes to some extent from around the cervix; and to these forces a considerable amount of assistance may be given by keeping the water, during the administration of the douche, confined to a certain extent in the vagina, thereby distending that canal, whose walls, from their pe-

culiar attachment to the cervix uteri, must, under these circumstances, exert some influence, by tension from their points of attachment, towards inducing dilatation.

Dr. Sinclair said, that, in the case he had just recited, as well as in the one reported by Dr. Shekleton, where he also operated by Dr. Shekleton's permission and direction, he endeavoured, as much as possible, to retain the water in the vagina (which he said "could be readily accomplished by the hand that directs the stream against the os, while the woman lies on the left side with her hips over the edge of the bed"); and he permitted the fluid to escape from the vagina by small jets, so as to prevent any *over-distention* of that canal. Dr. Sinclair was of opinion that, besides aiding in the dilatation of the os, the retention of the water thus in the vagina had also the effect of, to a certain extent, preparing that passage for the untimely transit of the fœtus; and that the elastic force thus exerted upon the water by this proceeding compels it more rapidly to insinuate itself between the cervix uteri and the membranes. Dr. Sinclair conceived, that if these observations were correct—and he believed them to be so—the hand-syringe was a much more efficacious instrument than the old form of self-acting syphon; for, with the latter form of douche, the maintenance of the waters in the vagina, which he deemed to be "the chief cause of the rapid advent of labour in both the cases he operated upon," could not be kept up to distend that canal sufficiently, inasmuch as, when the passage was *moderately* full, the current would be arrested; whereas any amount of distending force required may be obtained by means of the former or hand-syringe; but he said that the necessity of this measure increased much the labour of pumping, which he found the instrument he had just exhibited to the Society would, to a certain extent, obviate; and it enjoyed the same advantages as the single cylinder machine, in being applicable to every purpose for which that form of instrument was used, except enemata. Dr. Sinclair was sure that in post-portal hemorrhages it would be found most advantageous, from the rapidity of its action, and the large dash of cold water it could be caused to inject. The apparatus could be made portable by means of having the parts so constructed as to screw and unscrew.

Dr. Sinclair drew attention to the report of the proceedings of a meeting of the Medical and Chirurgical Society of England, contained in the Lancet for Feb. 19th, 1853, when Dr. Lee brought under the consideration of that Society the propriety of inducing labour in cases of extreme deformity, *before the seventh month.* In the case he had detailed, labour was induced at about six months and a half; and he was almost positive that, had the child been of the average standard of a fœtus at that term, he should not have been able to have delivered it alive; fortunately, there was dropsy of the amnion, and the child was puny for its age; in addition to which, the presentation was, under the circumstances of the case, favourable, viz. the breech. Dr. Sinclair had hardly any doubt but that in cases of

very extreme deformity, the douche, provided it were applied with the hand, and the vagina was kept properly distended, would be found successful long before the sixth month. Dr. Sinclair also drew the attention of the Society to the new method of induction, as discovered by Dr. Scanzoni, consisting in the irritating the nerves of the mammary glands, and thereby inducing a degree of sympathy in those of the uterus, which, it is asserted, ends in uterine contraction. The means of producing this mammary irritation is by India-rubber sucking-pumps. Sometimes mammary inflammation was also the result of this irritation, and Dr. Sinclair considered this in itself enough to condemn the new method of operating, especially when we were possessed of such a harmless, rapid, simple, and certain means, as the most valuable and important discovery of the late Dr. Kiwisch von Rotterau.

Case in which Symptoms of Poisoning were produced by swallowing Laburnum Seeds. By Thomas H. Babington, M. B., &c., Coleraine.

October 6, 1853, I was hastily summoned, at nine o'clock, P. M., to visit Mrs. E., resident in Coleraine. I found her sitting very close to the fire, cold, shivering, her face pale and sunken, pulse very weak and exceedingly quick, and the whole surface of her body covered with a cold, clammy sweat. She had vomited very severely, and complained of a dry sensation in her throat, and of very acute griping pains over the whole abdomen. She had been three times purged within the last two hours.

She informed me that about four o'clock, P.M., she picked up two pods on her dressing-table, and in a thoughtless manner opened them and swallowed the seeds; that in less than ten minutes she was attacked with severe vomiting, and recognised the taste of some bitter and acrid substance in the matters ejected; that the vomiting continued for two hours without intermission, when her bowels became affected; that she last vomited about half an hour since.

On examining the pods I at once recognised them as those of the *Cytisus laburnum.*

I ordered her to bed; applied heat to the extremities; and administered brandy, ammonia, and laudanum, till reaction was established. Next morning I found her pretty well, but slight nausea and the severe griping pains in the abdomen continued for more than a week.

Rules for the Administration of Chloroform. By M. Robert, Surgeon to the Hôpital Beaujon.

1. Chloroform may cause death when it is mixed in too great proportion with air.

2. But it may also, in consequence of idiosyncrasy, produce serious accidents and death, even when it has been administered in trifling doses.

3. Asphyxia is not to be apprehended as a result of the employment of chloroform unless the method of inhalation adopted be defective, or the state of the respiration be not duly attended to.

4. Chloroform predisposes to syncope, and renders the latter, when it occurs, more serious.

5. In cases in which death takes place exceptionally, it occurs by syncope. The cessation of the action of the heart is sometimes so sudden, that it constitutes a true sideration.

6. Syncope may occur at the very commencement of the operation, and in that case seems to result from the shock given to the system by the operative act itself. It may appear immediately, or several hours after the operation.

7. Anæsthetics are all more or less poisons. Chloroform is the most dangerous, but it is also the most powerful. Ether is less formidable, but less energetic. A mixture of equal volumes of ether and chloroform appears to me to be the best anæsthetic; it produces insensibility quickly, and seems to excite less reaction than chloroform or ether.

8. Before having recourse to the employment of chloroform, its contra-indications, whether for rejecting anæsthesia, or for modifying its application, should be sought for.

9. When chloroform is administered, it is important to watch attentively the state both of the pulse and of the respiration.

10. The danger of chloroform being, in general, proportional to the concentration of its vapours, it would be useful to be able to regulate this; but, as the inhalation must be made with free access of air, this regulation is impossible. It is, therefore, expedient to begin with very small proportions, which may be gradually increased according to the effects produced.

11. The action of chloroform being progressive and successive, we obtain insensibility by continuing uninterruptedly the inhalation of moderate doses, without its being necessary to increase the latter.

12. Having obtained the state called anæsthetic tolerance, we may prolong the condition for a longer or shorter time, provided we intermit the inhalation.

13. When, for any reason, the patient has been obliged to consume a large quantity of chloroform, we must guard against consecutive attacks of syncope.

14. In cases of severe syncope or sideration, it will be advisable to have recourse to the following means:—

1. To expose the patient to a cool and pure atmosphere.
2. To give the body such a position that the head may be dependent.
3. To open the mouth and draw the tongue forward.
4. To practise artificial respiration by duly timed pressure (par des pressions cadencées) on the thorax and abdomen.
5. Excitement of the skin by frictions, rubefacients, &c., may be subsidiarily employed.—*Bulletin Général de Thérapeutique*, vol. ii., 1853, p. 545.

[The above deductions by M. Robert conclude a lengthened essay which was read by him before the Surgical Society of Paris. Although they do not contain much that is novel or important, we think them worth publishing, as an exposition of the views pretty generally adopted by the French surgeons as to the administration of chloroform.—ED.]

On Tone and Atony. By RUD. VIRCHOW.

THE subject of tone has latterly been so fully and variously discussed in reference to the condition of muscles, that it seems to me advisable to add a few explanatory remarks on the question in a pathological point of view. It was, moreover, the requirements of pathology which rendered the use of the terms tone and atony necessary. Etymologically we should by tone understand the medium state of tension, and if, according to the views of the present day, we refer this principally to contractile parts, misunderstanding might easily arise. Pathologists have at all times ascribed tone and atony to a greater number of parts than to muscles simply; they have likewise attributed these conditions to merely elastic parts, as ligaments, membranes, tendons, or simple areolar tissue. Tense and flaccid fibres were for a long time expressions nearly equivalent to tone and atony. If the word tone represents only the medium state of contraction, or the capacity of this condition, atony should signify incapacity thereof, and so be synonymous with paralysis, but this is by no means the case: an atonic part is not necessarily paralytic, although a paralytic part is usually atonic. Atony is simply weakness, when we speak of a contractile part, relaxation when applied to an elastic part. Both weakness and relaxation are often connected with a flabby, collapsed condition, while tone is accompanied by a certain turgid fulness, the *turgor vitalis*. Hence it follows, that these conditions also have been confounded. But turgescence chiefly depends on the condition of the local vascular apparatus, and on the quantity of blood present in the body: the mean state of tension of turgescence is principally dependent on the pressure of the blood, and on the quantity of blood within the vessels, and thus has so little to do directly with tone that it may actually increase through atony of the walls of the vessels. As therefore, in reference to tonicity, we neither speak principally of the circumstances of *contraction* nor of *pressure*, nothing remains but to consider the

conditions of *nutrition* of the parts, and in fact any other point of view can scarcely be regarded as valid. In suitable nutrition, in which a part is maintained regularly and uniformly in its internal composition, the internal attraction of its particles, its cohesion, and consequently its power of external resistance, must be the greatest; in lesions of nutrition, where its due admixture is interrupted by heterogeneous, wasted, or irregularly assimilated particles, its internal attraction will relax, its cohesion will diminish. The former is tone, the latter is atony. We thus speak of a *condition of tension of a part permanently caused by the attraction of its atoms depending on the state of its nutrition, and not transitorily proceeding from a special excitement or irritation.* In the muscles we can very well distinguish this nutritive tension (the tone) from the functional. A wearied muscle loses its tone although it can very easily be made to contract, and may continue in certain states of contraction. It is therefore incorrect to refer both properties to tone: it is only the power by which the contractions occur and continue that depends on nutrition, or, if we will, on tone; and since in many cases proportion depends mostly on this, it is easy to understand that the term tone has been too widely applied; but confusion may be easily avoided by recollecting that *every living and well-nourished part possesses tone.* Following Ed. Weber[a] we have been in the habit of referring many of the phenomena formerly attributed to tone simply to elasticity. Certain and indisputable though it now is, that elasticity is more perfect in muscles directly as they possess more tone, it would still lead to many mistakes were we simply to identify the two: as tone must be considered as the cause of the greater or less contractile power of a muscle, so elasticity likewise depends on it; but the latter is, as Pirogoff has very correctly observed, organic, that is, it varies with the conditions of life and nutrition, and does so indeed in very brief periods of time; indeed, it is very quickly altered by action. *The more the contractile power diminishes, the more the degree of elasticity is lowered.* This is easily explained when we consider that both have their common basis in tonicity.

The chief difficulty which attends these questions is in applying them to the muscular structure of vessels, on which subject I must refer to the forthcoming first volume of my Special Pathology and Therapeutics, page 99.—*Virchow's Archiv für Pathologische Anatomie und Physiologie und für Klinische Medicin,* bd. vi., heft 1. 1853. Page 139.

On the Occurrence of Sarcinæ in the Lungs. By Professor Zenker, of Dresden.

In dissecting the body of a woman, twenty-eight years of age, who had suffered from a cancerous tumour of the anterior wall of the abdomen, it was found that, in addition to the presence of isolated

[a] R. Wagner's Handwörterbuch der Physiol. III. 2. Art. Muskelbewegung.

cancerous nodules in the lungs, the lower lobes were in some parts devoid of air, but soft, while in other parts they contained air, and were infiltrated with a quantity of fluid; in the interspaces were scattered numerous undefined spots, of a distinct yellow colour, yielding on pressure a yellowish flaky fluid, in which a large quantity of sarcinæ were seen on microscopic examination, together with other vegetable products, large fat corpuscles, yellow particles of various forms, and amorphous masses of a yellow colour, probably from being tinged with the colouring matter of the bile. In the stomach was a radiated cicatrix; in its contents the same microscopic forms were found as in the lower lobes of the lungs, but the sarcinæ were here much more abundant. The author supposes, from the similarity of the appearances, that the sarcinæ proceeded from the stomach, and that they had been brought up in the last moments of life by regurgitation, and driven by strong inspiration into the minutest ramifications of the bronchial tubes; the depth at which they were found (in the lower lobes) prevented the author from assuming that they got there after death, as, for example, while the body was being carried. In his opinion the present case differs from that described by Virchow in this respect, that in the latter it was more probable the germs of the sarcinæ were conveyed directly from without into the gangrenous portion of the lung, where the sarcinæ were, and that they did not reach that part accidentally from the stomach. Virchow's case thus showed that sarcinæ may, under certain circumstances, be propagated in the lungs.—*Vierteljahrschrift für die praktische Heilkunde*, 1853. Band iv. Analekten, p. 51.

On Acute Peritonitis in Children at the Breast. By Dr. Isidore Henriette, Physician to the Foundling Hospital at Brussels.

The frequent occurrence of affections of the serous system in infants at the breast must strike the physician who makes the diseases of children the principal subject of his observation and practice. The peritoneum, the pericardium, the pleura, the membranes of the brain, present in turn, and more frequently than is generally supposed, pathological changes which bear witness to a special tendency in these exhalent tissues to become affected in children at the earliest age. In stating that the diagnosis of these diseases, with the exception of meningitis, the symptoms of which are most frequently sufficiently evident, is obscure, I do not mean to assert that inflammation of the peritoneum, pleura, or pericardium, is only recognisable after death, or that the functional disturbances, to which peritonitis in particular gives rise, are beyond our recognition; still their recognition requires close attention on the part of the physician. I shall, therefore, endeavour to remove the latter disease from the obscurity which surrounds it, both by collecting and arranging the materials for its diagnosis, which are to be found scattered in

the observations of writers on the subject, and by describing the results of my own experience. I shall finally point out the characters which distinguish it from entero-colitis, a disease which, it is well known, is very frequent in children at the breast, and with which peritonitis may most easily be confounded, as occurred in the child who was the subject of the first observation I shall presently report.

In the first place, if we endeavour to ascertain the cause of idiopathic peritonitis in young children, we are soon at a loss, and it is not one of the least singular features of this affection that it appears with unexpected suddenness. It is well known that in the adult, spontaneous peritonitis is rarely observed, and that it is ordinarily met with only in connexion with the puerperal state, traumatic lesions, perforations of the digestive tube, &c. Its etiology is, therefore, most uncertain; and I shall just now show that in the two cases in infants which I had under my care in the hospital, it was impossible to trace them to a cause which did not leave too much room for suppositions and hypotheses, and that in particular there was no trace of erysipelas or inflammation observable about the umbilical cicatrix. This it is important to note. A coincidence between my two cases and those observed by Bouchut (I do not think it was anything else) appears to me, however, worth pointing out: the one instance that of an infant at the breast, suffering from syphilis, and submitted to the mercurial treatment, as in my first case; the other that of a child affected with an erratic erysipelas, as in my second case. Are we to see in this analogy anything but a coincidence, an accidental occurrence? Although such language is scarcely scientific, and may be at variance with certain opinions, I am strongly inclined to believe that it is correct. Doubtless, it would be very important to ascertain the cause of a disease so rapidly fatal, because we might then be able to remove children from the influences which give rise to it; but that is not the question which I wish to elucidate: my principal object is, to enumerate the symptoms I have noted, with a view to obtaining a positive diagnosis, to establish the signs, hitherto, in spite of modern labours, imperfect, of an affection which, as I have just said, is, nevertheless, frequent. In the adult the symptoms of acute peritonitis are most characteristic; it is difficult to mistake them; they are so clear that, except with such inexperience as can only occur in the merest tyro, it is almost impossible not to make an accurate diagnosis. Does the same hold good in children at the breast? No. Here there is no information to be derived from the patient; nor does the disease reveal itself to our senses, as in the adult, in a contracted countenance, and a small, compressed, and peritoneal pulse; there is, indeed, pain on pressure, and tumefaction of the abdomen; but these two morbid manifestations belong equally to diseases of the intestinal tube, and it is, nevertheless, on their existence that the diagnosis is, in great part, founded. It is, then, quite necessary to define, accurately, the conditions of their presence or absence, their intensity and progress in the peritonitis of nurs-

lings, in order to distinguish the latter affection from acute gastro-colitis.

Peritonitis in children commences suddenly; we do not know whether it is, as in adults, preceded by rigors; but this we know, that, threatening in its first appearance, it is not preceded by any premonitory symptoms. The children I have had an opportunity of observing enjoyed a comparatively satisfactory state of health up to the moment in which the peritonitis set in. They had not previously presented anything unusual. Entero-colitis begins less abruptly; the infants refuse the breast, or take it with indifference some days before the appearance of the disease, intestinal gurglings supervene, and the alvine discharges become disordered.

IN PERITONITIS.	IN ENTERO-COLITIS.
Tenderness of the belly is excessive, as it is in any disease of the abdominal organs; the infant screams out on the least pressure.	The abdominal sensibility is less acute; a certain amount of pressure may even be exercised without producing cries.
Swelling of the abdomen occurs with great rapidity; the belly becomes inflated, so to speak, under our eyes, from the very commencement of the peritoneal inflammation, at the same time that dulness sets in over the lower or pubic part.	The tumefaction of the abdomen takes place less rapidly, and almost always in the ratio of the intensity of the intestinal inflammation.
Vomiting is rare, and takes place only at the commencement; the vomited matters are unmixed, perfectly green, and stain the linen on which they are discharged.	Vomiting is more frequent, and more continued; the matters ejected are almost always mixed, and are of a yellowish-green colour.
Constipation is a symptom which I have observed in the two cases I have noted.	Diarrhœa is almost constantly present, or at least the motions are curdled, greenish, and heterogeneous.
The face scarcely changes; the eyes are more than usually fixed; and the children preserve their plumpness.	The face rapidly becomes wan, the eyes and mouth are encircled with blue, emaciation progresses quickly.
The little patients remain almost motionless, and cry when they are stirred.	The children frequently draw up their legs over the abdomen.
Respiration is perfectly thoracic, and very much hurried; the inspiratory movements are incomplete and limited, as described by Bouchut.	The same symptoms are produced, but with much less intensity. The diaphragm does not remain, as in peritonitis, motionless and passive.

Such are the most prominent symptoms I have observed. They are at variance with some of those described by Billard, almost the only physician who has paid special attention to peritonitis in children at the breast, and who has given a description of it at all approaching to completeness, as, for example, the distortion of the features, and the nature of the matters vomited.

To some it may, perhaps, appear strange that I have not noted the signs furnished by an examination of the general symptoms, and of the pulse in particular. I have omitted doing so because these phenomena have not differed from those presented by any ordinary pyrexial affection. I shall say nothing of the treatment of this formidable malady, except that I have derived so little advantage from the employment of antiphlogistics and emollients that I intend, when I next have occasion to treat peritonitis in young infants, to combine a mercurial treatment with the antiphlogistic, following in this respect the practice and the experience acquired in the case of adults. I am far, however, from being sanguine as to the final result of this combined plan, for death ensues so rapidly that I can scarcely conceive of therapeutic agents having time to take effect.—*Archives de la Médecine Belge*, August, 1853. Page 102.

[There is no reason to question the accuracy of the diagnosis in the cases M. Henriette has described, but he appears to have seen only two, while M. Thore has reported fifty-nine, two-thirds of which occurred when the children were only ten days old. The greater number were observed in large foundling hospitals which were visited by erysipelas infantum. The appearance of the disease in so many instances, at such a very early age, is worthy of note; and it has been remarked by Dr. West, that as the child grows older, the mucous membrane becomes more liable than the peritoneum to be affected. Dr. West has also given some cases in which the disease was dependent on a syphilitic taint.—Ed.]

Case of Cysticercus Cellulosæ in the Brain, causing Death. Communicated by Professor P. E. Gellerstedt.

Kerstin Rosenquist, forty-seven years of age, married, from childhood enjoyed tolerably good general health, but has been in hospital for various syphilitic affections: on the 3rd January, 1852, she sickened, having for some days previously suffered from want of appetite, with slight rigors, followed by flushes of heat, violent pain and heat in the head, great languor, and mist before the eyes when in the upright position. On the day above mentioned she took to bed; and loathing, a sense of oppression of the chest, constipation, and vigilance, alternating with sleep disturbed with uneasy dreams, quickly supervened. After the lapse of seven or eight days violent vomiting set in, occurring several times in the twenty-four hours, both after eating and when the stomach was empty, with a discharge, at one time, of food more or less altered, at another, of bile. On the 17th January the menses, which had been six weeks absent,

reappeared. On admission into hospital on the 19th January, the patient complained particularly of a severe pain in the head, chiefly over the forehead, with great debility; there was some intolerance of light, and an expression of extreme suffering; the eyes were slightly injected; the pupils were somewhat contracted, but obeyed the stimulus of light; there was neither remarkable redness of the face, nor any considerable heat in the head or in the surface of the rest of the body; the bowels had not acted for several days, and the vomiting, as above described, continued; the tongue was soft and flabby, furred towards the root; the pulse was 90, small and weak, but uniform. The heart's impulse was tolerably strong, but its volume could not be considered as increased, although a decidedly double sound, accompanying the systole, was heard over the entire of the organ, and especially over its left half. After the employment of cupping to the nape of the neck, and the use of purgative medicine, followed by a mixture containing sulphate of magnesia, the headach and vomiting diminished; the latter ceasing altogether on the 23rd January, but the former was not wholly removed until the 3rd of February. The patient, who seemed to have taken a great quantity of mercury at various times for syphilis, experienced mercurial action after a dose of ten grains of calomel with an equal quantity of jalap, which, although slight, continued to the last-named date.

She was, at her own request, discharged on the 13th of February, but on the 26th applied for readmission for the same symptoms as before, with the addition of a peculiar delirium during the night, so that, while in the daytime she spoke and answered correctly, although after long consideration, often exhibiting a want of comprehension and judgment, by night she got out of bed, went into the corridor and other wards, without any definite object, and without being able to account for her wandering. After four or five weeks' treatment with aperient medicines, followed by small doses of iodide of potassium, she again improved, and by her own desire left the hospital in the beginning of April, and remained at home during the entire summer.

The headach and other symptoms seem, however, to have soon returned, and the patient by degrees sank into a state of imbecility; she was therefore taken in again in October, and it was found on her admission that her senses were now completely blunted, so that she lay almost constantly silent and motionless in bed; it was only with the greatest difficulty that she could be induced to answer when spoken to, and then she did so extremely slowly, and apparently after long consideration; her answers to the simplest questions were scarcely intelligible, and often consisted of nothing but an indistinct muttering. Her countenance was expressive of suffering and of some degree of anger; there was no congestion either of the face or eyes; the pupils were particularly sluggish, but equally so on both sides, and were rather contracted than otherwise; her former dulness of hearing now amounted almost to deaf-

ness. She complained of nothing except occasionally of hunger; had no longer vomiting, but was obstinately constipated. She now began to pass urine under her, but never had retention. Her gait, which from the time of her admission on the 26th February had been unsteady, was now extremely faltering; and her muscular weakness was so great that at last she could not at all stand upright; yet no proper paralysis existed, still less any contraction or convulsive movement. She became by degrees excessively emaciated; her skin was of a yellowish-gray colour, resembling parchment, but there was no tendency to the formation of bed-sores. She died on the 25th November.

On dissection the brain was found to be large, jutting out over the edges of the skull when opened; the convolutions were flattened, so much so that they were nearly obliterated; the entire surface of the organ was particularly pale and bloodless, and in it was found, as well quite superficially in or under the pia mater as somewhat more deeply situated in the cortical substance, a number of round vesicles as clear as water, of the size of small hazel-nuts. These vesicles could with the handle of the scalpel be easily turned out of the little cavity they formed for themselves, the walls of which, composed entirely of the cerebral mass, were in some instances not at all, in others only in their most superficial layer, and seldom deeper, softened, but in all cases without any further change of colour than the general paleness described. The vesicles were found tolerably equally scattered singly throughout the whole cortical substance, with from one or two to four lines interspace, but only two in the left hemisphere, and one in the right, were found quite in the white medullary substance. Vesicles of the same description were also found in both thalami and corpora striata, especially in and on their upper surface, and in this situation they were so closely conglomerated that between most of them scarcely an interval existed; the substance of the brain, also, was more softened here than in the other parts. The under surface of the brain was found to be in the same condition as the upper and lateral surfaces of the hemispheres. Similar vesicles, but less numerous than those in the cerebrum, were likewise found in the cerebellum, and were also situated close to the surface. The lateral ventricles contained but one or two tea-spoonfuls of a fluid as clear as water, but the septum and fornix were considerably softened. Immediately at the sella turcica was a vesicle similar to those described above, firmly attached to the dura mater itself. On closer examination, a pearl-white round body, as large as a hempseed, and more or less closely attached to the wall of the vesicle, was found floating in a clear watery fluid in each of these vesicles. When magnified twenty-five times, this was seen to be a *cysticercus cellulosæ*, characterized by its transversely folded body, covered with numberless small plates, its four nipples, and its double circlet of hooks; the latter, however, not distinctly seen until the body was magnified fifty times. Besides those in the brain, four or five such cysti-

cerci were found on the surface of the right lung, exactly where its three lobes meet in the pleura pulmonalis, which latter was in this situation somewhat thickened, and covered to an extent equal to that of the palm of the hand with granulations of the size of grains of sand[a]. A single cysticercus was situated on the endocardium in the left ventricle, close to the aortic orifice; one was found in the duodenum, adherent to the mucous membrane, and several in both kidneys: besides these, an infinite number existed in all the muscles of the body.

On the first occasion of the patient's admission into hospital, the severe headach, the intolerance of light, the anxiety, the want of sleep, the heat in the head, and especially the violent and persistent vomiting and constipation, indicated a considerable degree of hyperemia and irritation of the brain; but at the same time the symptoms were too severe to be referred simply to the congestion of that organ, which might possibly be produced by the increased action of the heart; while the absence of all delirium on the one hand, and of all lesion of motion on the other, made a definite diagnosis so difficult that I considered we were not justified in describing the disease more closely than as a *cephalalgia sanguinea*, notwithstanding the reason there might be to look upon the affection as a meningitis. When, however, the patient returned so soon after her first dismissal, and the peculiar delirium with the other lesions of intelligence were added to her former symptoms, it became evident that the morbid process was of a more permanent nature, and that it involved more of material alteration, and had its seat in and affected the surface and the gray substance of the brain; in addition to which, the absence of all proper paralysis, convulsion, or contraction, showed the relative integrity of the medullary, white, movement-controlling substance. I still felt, however, that we could not accurately define the special character of the morbid process; although consequences of the past attacks of syphilis, the presence of some other swelling proceeding from the dura mater, or an actual hydrocephalus internus, were the conjectures most adhered to until death at last solved the question. Of the appearances on dissection, the presence of the cysticercus on the endocardium, and perhaps still more on the intestinal mucous membrane, was remarkable.—*Hygiea*, March, 1853, p. 145.

[a] Were these tubercles or cysticerci in the first stage of development?—Ed.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. XI.—*On Paralysis occurring during Gestation and in Childbed.* By FLEETWOOD CHURCHILL, M.D. T.C.D., M.R.I.A., Fellow of the King and Queen's College of Physicians in Ireland, and Associate Member of the College of Physicians, Philadelphia, U. S., &c. &c.[a]

HAVING been much interested by a case of paralysis after delivery, to which I was called by my friend Dr. Duke, I was led to make some inquiry into the occurrence of the disease, not merely after delivery, but during gestation, and to examine the authorities within my reach, in order to collect from them all the information they contain; but I am sorry to say that my search has not been very fruitful in results. Bearing in mind that paralytic affections may occur as a termination of convulsions, as well as independently, I carefully looked over the principal obstetric writers; and in the works of Giffard, Ould, Exton, Smellie, Chapman, Pugh, Burton, Moore, Foster, Perfect, Osborn, Spence, Hamilton, Denman, Burns, Merriman, Blundell, Collins, Davis, Lee, Murphy, and Hardy and M'Clintock, I have found no mention of the disease.

[a] Read at a meeting of the Association of the College of Physicians, March 1, 1854.

Dr. Campbell has a short section on paralysis of the pelvic extremities, which, he observes, "may be either partial or complete; and in all the cases which I have seen is confined to one of the limbs. It must be owing to the long duration of the head in the pelvis, from disproportion and consequent injury to the pyriformes muscles, or great sacro-sciatic nerves. The partial variety is what we generally meet with, and in either, it is a protracted complaint, without the patient, however, in any instance that I have seen, becoming permanently lame"[a]. Dr. Ryan observes, that "some women, after the easiest as well as after instrumental delivery, are attacked with paralysis of the lower extremities, which is generally attended with retention of urine. The disease usually disappears in a few weeks"[b].

Dr. F. Ramsbotham states that "paralysis of one or both legs, in very various degrees, occasionally happens after labour; more frequently when the process has been tedious and painful; but sometimes, when it has been of ordinary duration, or even of unusual rapidity. It is not attended with cerebral affection, and is dependent on the pressure which the muscles and nerves have sustained during the passage of the child's head through the pelvis. There is pain or numbness both within that cavity and around the hip, and an inability to move the limb with freedom. It generally disappears by degrees within a few days; at other times it continues beyond the period the patient usually remains in bed, and compels her, when she rises from it, to use a stick or a crutch." Again, "hemiplegia, indeed, may appear after delivery, as well as at other times, but there will be particular symptoms, independently of the local affection, which are too well known to require mention from me here"[c].

Dr. Dewees has given two cases of convulsions, followed by temporary blindness[d]; but this is the only reference to the subject in his works, or those of Dr. Meigs.

I have not been more fortunate in my search among systematic writers on diseases of women, for neither Leake, Hamilton, Blundell, Hall, nor Ashwell, makes mention of either paraplegia or hemiplegia.

I find as little notice of these affections in French or German obstetric works. I have examined the writings of Saccombe, Boivin, La Chappelle, Baudelocque, Maygrier, Gardien, Velpeau, Moreau, Chailly, and Jacquemier, of Carus, Jöerg, Wigand, and Busch, on midwifery; and of Nauche, Capuron, Gardien, Jöerg, and Siebold, on diseases of women, without hav-

[a] Midwifery, p. 406.
[b] Manual of Midwifery, p. 661.
[c] Obstetric Medicine and Surgery, p. 548.
[d] Midwifery, p. 506.

ing been able to find an allusion to it. The recent work of M. Scanzoni, of Wurzburg, is the only one in which it is noticed. He has a chapter on paralysis of the lower extremities, in which, admitting that it may in some cases be owing to pressure, yet as it may not appear until some time after labour, and as a similar affection may attack the upper extremity, he considers that pressure cannot be the sole cause, but that it may be attributed to some more profound derangement[a]. He has given a case which I shall quote hereafter.

This paucity of information in systematic obstetric works, it occurred to me, might be owing, not solely to the rarity of the disease, but partly to the opinion that the disease belonged more properly to the department of general medicine, and that, perhaps, I should find more information in works treating of the practice of physic generally, or of diseases of the nervous system in particular. I have, therefore, consulted such as are within my reach, but with very limited results. The disease, as connected with pregnancy or childbed, is not mentioned by Hasse, Rokitanski, or Abercrombie, but the latter distinguished observer has some observations so apposite to the cases which I shall relate presently, that I shall take the liberty of quoting them. He states, that an attack of paralysis may[b]—"1. Be merely the prelude to the apoplectic, and may pass into it after a short interval. 2. The attack may, under proper treatment, pass off speedily and entirely, leaving, after a very short time, no trace of its existence. 3. The recovery may be very gradual, the use of the affected limbs being restored after several weeks or months. 4. The palsy may be permanent, &c. &c." And again, he remarks, that "the whole phenomena of palsy do indeed bear evidence that certain cases of it depend upon a cause which is of a temporary nature, and capable of being very speedily and entirely removed. We see hemiplegia take place in the highest degree, and yet very rapidly disappear; but the most singular circumstance connected with certain cases of palsy is, that we occasionally see it continue without any improvement for many weeks or months, and then, from some change which entirely eludes our observation, take a turn for the better, and entirely disappear." Dr. Todd[c] mentions the fact, that anæsthesia of the face sometimes occurs after parturition, and also that paralysis may occur, and that it is sometimes coincident with phlegmasia dolens.

Dr. Cooke, in his work on Nervous Diseases, does not treat

[a] Lehrbuch der Geburtshülfe, p. 1000. [b] Diseases of the Brain, &c., pp. 246. 248.
[c] Cyclopædia of Practical Medicine, vol. iii. p. 243.

of paralysis in connexion with pregnancy or parturition, but he notices a curious fact, which is illustrated by one of the cases I shall detail, namely, that a patient with hemiplegia is sometimes unable to utter the exact word they wish, to express their meaning, either from forgetting it, or from a difficulty in pronouncing it[a].

Dr. Graves, in his admirable observations on the Pathology of Nervous Diseases, when treating of the centric or excentric origin of certain forms of paralysis, remarks: "I shall endeavour to prove, first, that paralysis (from whatever cause) affecting one portion of the circumferential extremities of the nerves, may also affect other portions of their extremities; secondly, that pain originating in one situation may produce a similar sensation in distant parts; and, thirdly, that convulsions, resulting from irritation in any part of the extremities of the nervous system, may occasion a corresponding train of symptoms in other parts of the body"[b]. Although I think that these observations bear directly upon the affection under consideration, they were not so associated in Dr. Graves' mind, for he makes no allusion to paralysis occurring before, during, or after labour.

In Dr. Watson's Practice of Physic there is a very full and able account of the different varieties of palsy, but no mention of its occurrence in pregnancy or childbed; nor yet in the more recent special treatise of Dr. Copland.

I may further observe, that in none of these works is there any notice of the condition of the urine previous to or immediately after the attack. The only author who up to this period seems to have suspected a connexion between serious nervous affections and certain states of this secretion is Dr. Latham, who, after enumerating various diseases attended with or caused by albumen in the urine, says of the brain, "And some of its graver affections will come and go, and admit of a present relief, which is unusual where harm has befallen its own structure: convulsions and apoplexies appear and disappear, and yet are ultimately fatal, the chief concomitant circumstance which attracts our notice being albuminous urine"[c].

Dr. Romberg, in his valuable work recently published by the Sydenham Society, has a section upon "paralysis depending upon the affections of the sexual organs"[d], which is of such interest that I trust a pretty long quotation will be excused. "The female sex," he observes, "offers peculiar opportunities

[a] Vol. ii. p. 10. [b] Clinical Medicine, by Neligan, vol. i. p. 501.
[c] Diseases of the Heart, vol. ii. p. 229.
[d] Diseases of the Nervous System, vol. ii. p. 390.

for the study of paralytic attacks connected with morbid conditions of the sexual system: they arise either from direct pressure of the distended uterus, or ovary, upon the nervous plexuses of the lower extremity, and are then only unilateral, and accompanied by derangement of sensibility, as pain, numbness, or loss of sensation; or they are caused by a reflex influence upon the spinal cord, and then affect both sides of the body. Veterinary surgeons have repeatedly met with the complication of paraplegia and metritis; Gelle[a] quotes eleven cases of acute metritis in cows, which had followed calving; in all, the power of moving the hind legs was diminished, while sensibility continued unimpaired. Sewell[b] publishes the sectio cadaveris of a cow attacked with paraplegia following calving; intense inflammation was found in the uterus and vagina. Ithen[c] has communicated a few cases of metritis in mares, which was accompanied by inability to stand, and to raise themselves on their hind legs. Dr. Hunt[d] has observed similar occurrences in women. Lisfranc[e] details the case of a lady, aged 36, who had gradually been attacked with paraplegia, without any loss of sensibility. All the remedies applied on the assumption of a disease of the spinal cord remained unavailing. Lisfranc made a vaginal examination, and found the fundus uteri so much enlarged as almost to fill the pelvis; after using the iodide of potassium and iodine frictions for three months, and taking the waters at Barège, the tumefaction of the uterus was reduced, and complete recovery was obtained in two years.

"Paralysis of the lower extremities often supervenes during confinement and even after easy births, without pain having preceded or being associated with it; and the accoucheurs attribute it to compression of the sciatic plexus and obturator nerve, for which there is no warrant whatever. There would be more justice in assuming that an accumulation of serous fluid had taken place in the spinal canal, resulting from disturbance of the circulation, as we find in tumours of the abdominal cavity; but morbid anatomy does not afford any proofs of the fact. No such condition, however, is necessary, as demonstrated by a case which recently came to my notice, and in which the uterus was atrophied. A woman, aged 41, had, since the cessation of her catamenia six years previously, frequently suffered from twitching of the inferior extremities,

[a] Journal Pratique, &c., 1826. [b] Veterinarian, vol. iv. p. 509.
[c] Nebel und Vix. Zeitschrift für die Gesam. Thierheilkunde, vol. iii.
[d] Stanley, p. 274.
[e] Journal de l'Anat. de la Physiol. et de la Pathol. du Système Nerveux, 1843, vol. i. p. 154.

and for nine months past, motility had been diminished; there was a frequent tremor and sense of weight in the legs. The cutaneous sense of touch was dull in the feet, especially in the left, in which the disease had commenced with lacerating pains. Retention of urine, alternated with eneuresis, especially at night. The upper extremities continued in the full possession of their vigour. No abnormity was discoverable in the spinal cord. Dr. Schöller, whose accurate method of exploration is well known, found that the vagina was much shortened, and that there was no portio vaginalis, only the transverse fissure of the uterus remained visible at the arch of the vagina, directed from before backward. The os tincæ was very soft, and the neck presented the usual hardness; it was evident that the sexual system had undergone a process of involution, as in an old woman. I ordered the alkaloid of the nux vomica, strychnine, in doses of a quarter of a grain, twice a day, and friction of the legs with the ethereal oil of turpentine; after continuing this treatment for three weeks, a favourable effect was experienced."

A friend very kindly undertook a tolerably extensive search among the periodicals, but, with two remarkable exceptions, nothing on the subject was found. These two exceptions were, a paper by Dr. Lever, of London, and one by Professor Simpson, of Edinburgh. With both of these gentlemen I have been in communication, and from both I have received additional matter, a favour whose value has been doubled by their frank, kind manner of conferring it, and for which I take this opportunity of returning my warmest thanks.

Dr. Lever's cases of paralysis form part of an interesting series, illustrative of certain nervous affections of pregnancy; and in support of his conclusion that "pregnancy is occasionally associated with chorea, or convulsive movements; with paralysis of various parts of the body, of the extremities, and of the nerves of special sense; and with mania"[a]. The varieties of paralysis he describes are, amaurosis, deafness, hemiplegia, loss of power in both upper extremities, loss of power in the right lower extremity, &c. &c. I shall take the liberty of giving an abstract of these cases by and by.

Dr. Simpson's communication, published in the same year, consists of some observations made at the Edinburgh Obstetrical Society, from which I shall extract so much as relates to the subject before us at present. "1. Albuminuria, when present during the last periods of pregnancy and labour, denotes a great and marked tendency to puerperal convulsion. 2. Al-

[a] Guy's Hospital Reports, 1847, vol. v. p. 1.

buminuria in the pregnant and puerperal state sometimes gives rise to other and more anomalous derangements of the nervous system, without proceeding to convulsions; and Dr. Simpson had, especially, observed states of local paralysis and neuralgia in the extremities, functional lesions of sight (amaurosis, &c.) and hearing; hemiplegia and paraplegia more or less fully developed. . . . . " " 5. Albuminuria and its effects are far more common in first than in later labours, and then constitute a disease which generally disappears entirely after delivery. But Dr. Simpson had seen one case commencing with slight blindness, but no œdema, and ending gradually in hemiplegia, where the palsy remained after delivery, and after the disappearance of the albuminuria. In another, amaurosis came on with delivery, and had been present for six months, when Dr. Simpson first saw her. She had no œdema or other symptom of albuminuria, but in testing the urine, it was highly albuminous. 6. Albuminuria with convulsions, &c. occurring in any labour later than the first, generally results from fixed granular disease of the kidney, and does not disappear after delivery. 7. Perhaps, in puerperal convulsions, &c., produced by albuminuria, the immediate pathological cause of the nervous lesion is some unascertained but poisoned state of the blood. Was there a morbid quantity of urea in the blood? In several specimens of the blood of patients suffering under puerperal convulsions, furnished by Dr. Simpson to Dr. Christison and Dr. Douglas Maclagan, these gentlemen had been unable to detect any traces of urea. Was the poisoning material caseine in morbid quantity or quality? The dependence shown by Gluge and others, of albuminuria upon stearosis of the kidney, makes this connexion worthy perhaps of some inquiry." " 9. Sometimes hemiplegia supervened during pregnancy, without albuminuria, but this form did not seem to interfere materially, or very dangerously, either with the pregnancy or labour; the disease running its own usual course. In one case, Dr. Simpson had seen the patient gradually but imperfectly recover the use of the palsied arm after delivery. In another, no improvement occurred"[a].

Let us now see to what the information we have obtained from these different authorities amounts. Very briefly, we find:—

1. That hemiplegia, paraplegia, or partial paralysis, may occur previous to, during, or some time after labour.

2. That by some authors, the paralysis, in paraplegia especially, is attributed to pressure upon the muscles or nerves, in

[a] Edinburgh Monthly Journal, October, 1847, p. 288.

prolonged labour; but this is also denied, as the same disease follows easy labour, or occurs after the lapse of some days.

3. Paralysis may terminate convulsions or accompany them.

4. Paralysis may be the consequence of organic disease, or of effusion into or upon the brain or spinal marrow.

5. Paralysis may result from reflex action.

6. The palsy may depend upon temporary causes, and among such causes albuminuria may be included.

7. Hemiplegia may run on into apoplexy, or it may pass off in a few weeks, or sometimes more slowly. Paraplegia may leave a temporary or more permanent lameness: the local palsies (amaurosis, deafness, &c.,) generally last but a moderate time.

8. A nervous or hysterical paralysis may occur occasionally in the unimpregnated state, or during pregnancy, but that it seldom continues after delivery.

I shall now proceed to give a short abstract of such cases as I have been able to collect from authorities, or from my professional friends, or which I have seen myself. Among the former, I am indebted to Dewees, Scanzoni, Crosse, Beatty, Lever, and Simpson; and, among the latter, to Drs. Lever, Simpson, M'Clintock, Beatty, Forrest, Ireland, and Duke.

I shall first give those in which the paralysis occurred during pregnancy; then those in which it occurred at the time of labour; and lastly, those in which it followed parturition.

I.—PARALYSIS OCCURRING DURING PREGNANCY.

Case I.[a]—*Hemiplegia, partial.*—Mrs. A., aged 26, has two children; was attacked with "numbness in her right arm, and a diminution of its power. The mouth is drawn slightly to the right side, and there is a feeling of occasional tingling, and sometimes numbness, in the left thigh, leg, and foot. This was when she was about two months pregnant. Under careful treatment these symptoms diminished, but she did not lose them until her confinement. Similar symptoms accompanied the next pregnancies. Suffice it to say, that I have now attended this lady in four pregnancies, and with four children, she having borne six; that the same symptoms make their appearance very soon after pregnancy takes place; that they become modified by treatment, but are never removed until after delivery; that the period of their cessation has seemed to depend upon the nature and amount of blood lost during labour, &c., &c."

Case II.—*Paralysis of Right Arm and Hand.*—S. M.,

[a] Dr. Lever, Guy's Hospital Reports, vol. v. p. 12.

aged 38, married for nine years, had miscarried on two occasions, and during the eighth month of pregnancy was attacked by a "tingling sensation in the palm of her right hand and fingers, which rapidly ran up the extremity to the shoulder and axilla, when she found herself unable to hold or feel her needle; the fingers were slightly flexed on the hand, the hand on the fore-arm, and the fore-arm on the uterus." Five days after the attack Dr. Lever saw her. "The right extremity was in the condition above described; the sensation of the limb appeared little, if at all, deranged; but she complained of a sensation of heat throughout its whole extent: her countenance was pale; there was no pain or heat in the head; her bowels had been freely opened on the day of my visit; her pulse was small, feeble, and 96"[a]. Under the use of sulphate of zinc, with nutritious diet, &c., she improved, but did not recover the use of her arms until after her confinement.

Case III.—*Paraplegia*—"Is that of Eliza H., who was in Guy's hospital several times (I believe three) under the care of my late colleague, Dr. Ashwell. Immediately after her sixth labour, which was perfectly natural, she felt a great numbness in her lower extremities, as well as weakness, but from these she gradually recovered. During her seventh pregnancy, about the third month, her lower extremities gradually became paralyzed, and this time she was unable to stand or walk, and was compelled to keep her bed. After her confinement she was carried into the hospital, and placed under Dr. Ashwell's care, when she perfectly recovered. On going out, she became pregnant with her eighth child, and paralysis did not come on until after labour"[b].

Case IV.—*Amaurosis.*—Mrs. T., aged 31, soon after quickening of her fifth child, "whilst engaged in some plain needlework, suddenly felt a peculiar sensation in the eye-balls, and found, on opening the lids, that she could merely see the outline of objects, their centre being perfectly dark." "Her eyes were dark; the pupils were large, and contracted (though sluggishly) upon the stimulus of light; the eye-balls seemed to have in a measure lost their mobility, and to be inordinately fixed; the eyelids altogether, or nearly, covered the globes, for if they were not protected, she complained of a sensation of dryness and smarting." This state continued until her confinement; in a week afterwards there was an improvement which increased until after her return from the country: at the end of three or four months she could see as well as ever[c].

[a] Dr. Lever, Guy's Hospital Reports, vol. v. p. 14. [b] Ibid. p. 16. [c] Ibid. p. 17.

Case V.—*Deafness.*—Mrs. S., aged 23, when about three or four months pregnant of her first child, noticed that her hearing was not so acute as before; and it was evident that, week by week, it was becoming more obtuse. "She was dispirited and pale; her tongue, when protruded, was tremulous, flabby, and indented; her pulse small and feeble; her appetite tolerably good; her bowels regular; her nights restless; and the irritability of her temper had increased." The deafness continued to increase, in spite of treatment, until after her labour, which was natural. "The day after, she said her hearing was better, so that by the time she went to church, she could hear as well as ever"[a].

Case VI.—*Hemiplegia.*—Mrs. P., aged 18½, in the seventh month of her first pregnancy, fainted, in consequence of some family disputes, and when she recovered "it was found that she was hemiplegic on the right side, as far as the upper part of the abdomen; no pinching, tickling, or any other irritation, caused any movement in the right lower extremity. On the following day she swooned again, and this was followed by an apparent loss of motion and sensation in the right upper extremity. Matters continued the same for three days, when the limbs suddenly regained their usual power. Speechlessness now ensued, which also lasted for three days, and was followed by loss of power in the right lower extremity as far as the knee." The symptoms improved, but continued until she was delivered. In a subsequent pregnancy she suffered from speechlessness for a fortnight, and after delivery she found she had lost all power of the lower extremities, but this she gradually regained[b].

Cases VII., VIII.—*Hemiplegia.*—In addition to the preceding cases, which I have condensed from his paper, Dr. Lever, in a letter which I have his permission to publish, writes: "I have since seen two cases of hemiplegia depending upon cerebral disease, in which gestation proceeded to the full time, labour progressed, and the patient recovered. The child of one was hydrocephalic."

Case IX.—*Facial Paralysis, Partial.*—"I know of one woman who had had two deliveries and is now pregnant. She counts her pregnancy by finding numbness and want of power on the right side of the face, with a sensation of 'pins and needles' in her right hand. She recovers after delivery."

Case X.—"Another lady has had eight children, and has always suffered in a similar way. She has just aborted. Neither of these patients could nurse their infants."

[b] Dr. Lever, Guy's Hospital Reports, vol. v. p. 18. [b] Ibid. p. 20.

Case XI.—*Amaurosis.*—"In the course of this year (1853) I was requested to see a lady about thirty years of age, highly sensitive, nearly eight months pregnant, who was suffering from amaurosis in one eye, perfect, in the other the loss of vision was not so complete. She had had two fits, but not having the opportunity of meeting the medical attendant at my first visit, I did not learn their nature; however, by her appearance and her evidence, I was induced to suspect the presence of albumen in the urine. The medical man applied the usual tests, and found that this was the case; and as the vision became more and more impaired, the operation for the induction of premature labour was resorted to. Labour pains commenced twenty-four hours after the rupture of the bag of the waters, and in twelve hours the child was expelled, still-born. Three weeks since, her husband told me that his wife could play a game of cribbage."

Cases XII., XIII.—*Deafness.*—"In two instances I have known the sense of hearing, sorely blunted during pregnancy, restored after confinement; but albumen was not to be detected after delivery. When the albumen has been found wanting, the acuteness of hearing has returned." Let me add, that Dr. Lever mentions that in every case of this kind in which he examined the urine, he found it albuminous.

My friend, Professor Simpson, has kindly furnished me with the following notes of cases which have come under his observation:—

Case XIV.—*Hemiplegia.*—Mrs. ——, the daughter of a distinguished physician, when nearly eight months pregnant, became slightly amaurotic (palsy of the fifth): this led Dr. Simpson to examine the urine, which he found coagulable. Before labour came on, hemiplegia gradually supervened. The patient recovered, to a certain extent, after her confinement; she is now able to walk about, but has not yet the complete use of the affected side. In a subsequent letter he mentions another case of great interest.

Case XV.—*Facial Paralysis.*—"The lady is within a week or two of her third accouchement. Four days ago, after feeling unwell, she felt a stiffness in the right side of her face, preceded by pain in the back of the head. The stiffness soon assumed all the usual symptoms of paralysis of the portio dura. When I saw her to-day, the face was much disfigured, particularly when smiling; she could not close the right eye, &c.; and, in addition, there appeared a want of sensation about the cheek, nose, and lips, as if the sensitive branches of the fifth were also affected. The eyelids, but especially the right, were swollen and œdematous, but there was no œdema of the hands or feet,

or elsewhere. The pulse was very slow and weak. She was super-sensitive to sounds, light, &c.: but the point that will interest you is this, that on testing the urine, I found it become very opaque and thick, on boiling." "I have seen a number of instances of local paralysis, particularly of the eyes, in connexion with albuminuria, but not until the present case, any example of paralysis of the seventh pair."

Case XVI.—*Hemiplegia.*—He adds, "Since writing to you, I have seen a patient who became hemiplegic six years ago, with her first child, and who has only imperfectly recovered the use of the affected side. From the symptoms accompanying the attack, it was probably another instance of this result from puerperal albuminuria."

The following cases occurred in the practice of Dr. Crosse of Norwich:—

Case XVII.—*Hemiplegia.*—"Mrs. —— was delivered of twins in May, 1844; a feeble, slender woman; had paralysis of the left side of the face before she married, which always remained; also the right became paralyzed after her labour, under a reducing diarrhœa, but this was recovered from. In the course of this year (1846) her paralysis of left side increased; she emaciated greatly; during these unfavourable changes there were sickness and indications of pregnancy. In June she had become so feeble as to take to her bed-room, and after some weeks could scarcely get out of her bed to have it adjusted. She passed her water only once in twenty-four hours, and at length had great difficulty in speaking and in swallowing,—all signs of her increasing paralysis or increasing disease of the brain." "She sunk in powers and bulk as pregnancy advanced; at the end of September could swallow only liquids and was much troubled with the mucus, which she could neither swallow nor expel by the mouth; very threatening paroxysms of suffocation were produced by this. In the beginning of October, she was evidently sinking fast, relieving us from the fear of delivery at full time, which she could not have survived"[a]. She died October 12, but no post-mortem examination was made.

Case XVIII.—*Hemiplegia.*—"Mrs. P., aged 42, mother of several children, six years ago had a slight paralytic stroke when pregnant, but went on to the full term of utero-gestation and recovered. Complained of numbness of right leg and arm some days before, and became quite hemiplegic of that side at midnight, September 2, 1827. Bleeding, blistering, and open-

[a] Cases in Midwifery, &c., by J. J. Crosse, M.D., F.R.S., p. 162.

ing medicine, employed. The liquor amnii began to dribble a few hours afterwards, and she was observed to strain as if in labour now and then, though she said she had no pain. In twenty-four hours a child between six and seven months was born dead, and the placenta followed. Although she strained, she did not appear to have the usual severe pain from the action of the uterus, and only called out at the last few pains when the child was passing through the os externum. Sept. 5th. She remains hemiplegic, but in all other respects seems doing well"[a].

Case XIX.—*Hemiplegia.*—Mrs. B., aged 27, was seized with hemiplegia a month before delivery, she recovered considerably before labour came on, on the 17th of May. "On the 9th of October she had slowly recovered almost the entire use of the limbs, but is thin, and feeble in mind as well as body." In 1845 she was again confined without any paralytic symptoms before or after labour[b].

I am indebted to my friend Dr. Beatty for the two following cases:—

Case XX.—*Facial Paralysis.*—Oct. 1st, 1850. Mrs. ——, first pregnancy. This young lady expected her confinement about the end of this month, and was very much shocked, on going to dress herself this morning, to find her face crooked; she had no notice of the paralysis that seized the muscles of her face, and her first knowledge of it proceeded from seeing herself distorted in the looking-glass. I was sent for, and found the mouth drawn very much to the left side and the muscles on the opposite side flaccid and powerless; the tongue on being protruded was turned to the right side; she had some headach, and was very much frightened; pulse 98 and small; leeches were applied behind the right ear, and after free purgation she was quickly brought under the action of mercury. Leeches were several times applied in the same situation, followed by blisters, under which treatment the paralysis of the side of the face gradually diminished, and in less than three weeks it had quite disappeared. She was confined on the 21st of the month. Her labour was easy, of eight hours' duration, and the child, a girl, was born alive and healthy. The urine was not examined. This lady has had two children since, and suffered no deviation from the healthy state in either pregnancy.

Case XXI.—*Hemiplegia.*—August 8, 1844. Mrs. ——, first pregnancy. This lady, very young, very small, of a lively active temperament, was seized with paralysis of the right side

[a] Cases in Midwifery, &c., by J. J. Crosse, M.D., F.R.S., p. 163. [b] Ibid. p. 164.

of the body, in the middle of the night, just three weeks before her confinement at the full period. The attack commenced with a fit resembling epilepsy or convulsive hysteria. When I saw her the next day she could not speak intelligibly, and had very little power over the right leg and arm. Her face was flushed. She complained much of headach, and was very irritable. Her pulse was 98, small and weak. Leeches were immediately applied to the temples, and the bowels were well freed as soon as possible, a large quantity of dark fæces being expelled. When this was effected, she was rubbed with mercurial ointment, and leeches were again applied to the temples and behind the ears, followed by blisters to the nape of the neck and behind the ears. She was quickly brought under the influence of mercury, and severe salivation ensued. The power over the limbs soon began to return, and were it not for the severity of the action of the mercury on the mouth, she could have spoken. She recovered perfectly in a fortnight, and was able to walk about and use her legs and arms. Her mouth continued very sore until her delivery took place. Her labour was an easy one, lasting only six hours, when a fine healthy girl was born. This lady had no swelling of the limbs nor any other premonitory symptoms of a convulsive attack. The urine was not examined. She has borne three other children since without any unnatural occurrence.

Case XXII.—*Partial Paralysis of Right Side.*—My friend, Dr. M'Clintock, has favoured me with the following case:—

"A lady, of healthy constitution, but nervous temperament, was suddenly seized with numbness, coldness, and partial loss of power of the right leg and arm, when in the last month of her fourth pregnancy. She was immediately put to bed, and the limbs well chafed with spirits. I saw her very soon after the attack, and found her in a state of great alarm and nervousness. Neither pain nor vascular fulness of the head was present; nor had she suffered from any symptom usually regarded as indicative of cerebral congestion. In the course of an hour she lost the unpleasant sensations in the limbs, and completely regained the power of them. The following day her only source of complaint was an unpleasant tingling in the ring and little finger of the right hand, and at times also in the right side of her tongue and lips. In the course of the next three weeks she had occasional returns of these anomalous sensations in the leg, arm, and tongue, but less often in the leg than in the other parts. Once or twice she complained of her forehead and the roof of her mouth being similarly affected. On the 11th of August (1849), she was confined, and had a

short and easy labour, and a most favourable convalescence. On the fourth day there was a return of the numbness and coldness, &c., as before, in the right leg, side, and arm. Between this date and the 1st of October, when her child, which she had been nursing, died, seldom more than three or four days passed without a visit from her troublesome complaint. It lasted about an hour, and was generally accompanied by a considerable flow of limpid urine. On more than one occasion I observed that the temperature of the affected limb was lower than that of the other; once, but only once, both legs were affected. Dr. Chas. Johnson saw this lady with me on Sept. 13, and agreed with me in thinking that her symptoms were of a purely nervous kind. Menstruation came on a few weeks after the death of her infant; nevertheless she continued to be tormented with this deranged sensation of the right side of the body. In the middle of December she went by our advice to the country, and returned home again in six weeks, wholly and entirely free from her complaint, after its having persisted for five months under the varying conditions of pregnancy, the puerperal state, lactation, and menstruation.

II.—PARALYSIS DURING AND AFTER DELIVERY.

Case XXIII.—*Amaurosis.*—Mrs. ——, aged 26, was seized in labour of her first child, September 9, 1811, and was soon after attacked with convulsions. The fits were frequent and violent, and continued less frequently after delivery, which was completed by the forceps; she was bled largely; blistered; cold applied to the head, &c.; but she remained insensible forty-eight hours after delivery, after which she gradually recovered. "She was left completely blind for two weeks; she then began to see imperfectly, but was six weeks before she could distinctly discern objects"[a]. In another case of convulsions, related by the same author, the sight, especially of one eye, remained for some time imperfect.

Case XXIV.—*Amaurosis.*—"Mrs. C., first pregnancy; under difficulties and depressed spirits; under thirty years of age; labour began with a convulsion; eyesight and sensibility lost; pupils greatly dilated. I was called in in consultation; the os uteri was much dilated; delivery effected by forceps. Bleeding and blistering being freely practised, the convulsions ceased; eyesight, quite lost for several days, at length returned, and there was perfect recovery"[b].

[a] Dewees' Compendious System of Midwifery, p. 505.
[b] Crosse's Cases in Midwifery, &c., p. 155.

Case XXV.—*Hemiplegia.*—I am indebted to Dr. M'Clintock for the following:—"This case occurred shortly before my leaving the hospital in the year 1847. E. D., aged 36, was delivered of a healthy boy, her third child, after an easy labour of about four or five hours' duration. Paralysis of the right arm and hand came on in the course of labour, and was wholly unattended by convulsion or any cerebral affection. She recovered the effects of her accouchement most satisfactorily, and could not be prevailed upon to remain in hospital beyond the eighth day (the usual time for the patients to return home) although she had but partially regained the use of the affected limb. During the seven days she remained under observation the treatment employed was at first warm stimulating fomentations to the arm, and afterwards blistering along the course of the brachial nerves, together with active purgatives. A very marked improvement took place under the use of these means, but the ultimate result of the case I do not know."

Case XXVI.—*Paraplegia*[a].—"In the month of December 1850, M. J., aged 32, an unmarried servant, was admitted into the Wurzburg Lying-in Hospital. She had previously been twice confined after natural labours, the last time in July, 1848. Eight days after this last confinement, she caught cold as she was washing in water up to her knees. Two hours afterwards she was attacked with symptoms of paralysis of the lower part of the left leg, which in the course of some days extended to the left thigh, and after two or three weeks to the right leg below the knee. At this time also the movements of both upper extremities were somewhat difficult, yet, though the patient could neither stand nor walk, she could still employ her hands in knitting, sewing, &c. In the month of May, 1850, conception again took place, accompanied by an increase of the palsy, without any diminution of the sensibility of the affected parts in the course of the disease. On the other hand, the deficiency of nutrition in the muscles of the forearm and legs was remarkable." Labour set in January 28, 1851, and after a considerable time she was delivered of a healthy child. She recovered well, and the paralysis seemed to diminish slightly from the fourth to the tenth day. Local bleeding, blistering, electricity, strychnia, and ergot, were tried without material benefit, and she remained, a year and a half later, much in the same state as when she left the hospital.

Case XXVII.—*Paralysis of Right Leg.*—The following

[a] Scanzoni, Lehrbuch der Geburtshüfe, p. 1000.

case has been published by Dr. Beatty[a]. "Anne Kiernan, aged twenty-one, delivered of her first child, November 26, 1836, after a labour of seven hours; infant born alive. Nothing remarkable occurred during labour or afterwards, until she complained on the second day that she could not move her right leg, and that it felt benumbed and dead. On examining the limb, no swelling nor pain could be discovered at any part that could indicate the approach of phlegmasia dolens; on the contrary, the sensibility of the limb appeared considerably lessened. Frictions with warm turpentine were ordered to the limb, but without any effect upon the condition of the part. At the end of a fortnight, finding that no improvement had taken place, a course of blisters along the line of the sciatic nerve was commenced, beginning above and going downwards. This plan, together with attention to her general health, had the effect of gradually restoring the power of the limb. In a month she was able to walk across the ward with the assistance of a stick, but even yet the leg was dragged along with difficulty, and when carried forward, the foot hung loose and vacillating, the toes pointing to the ground. In another month, she had regained considerable power over the muscles, her progression was much more firm and steady, and the sensibility of the limb was almost entirely restored. She continued to improve until the month of February, at which time she was walking about nearly well, and preparing to leave the hospital, when puerperal fever made its appearance in our wards." She was attacked by pericarditis, and died in about a week.

Case XXVIII.—*Paralysis of the Left Leg*[b].—"In the month of February, of the present year, 1851, a woman, aged 33, applied at the Polyclinique: on the 25th of January she had been delivered of her third child by the forceps, after a heavy labour, which had lasted twelve hours. During parturition she suffered from painful spasms of the left leg, and on the following and subsequent days, after she had left her bed, complained of lassitude, difficulty of walking, and diminished sensibility of the left foot. The examination showed that the sensibility of the left leg and thigh was normal, but that it was deadened on the dorsum and in the sole of the foot, so that the patient could not distinctly feel the hand when passed over it, or the ground when she put down her foot. The diminution of motility was betrayed by a laborious dragging of the leg in walking, and by

[a] Second Report of the New Lying-in Hospital: Dublin Journal, First Series, vol. xii. p. 304.

[b] Romberg on Diseases of the Nervous System, Sydenham Society's Edition, vol. ii. p. 390.

the difficulty with which she executed all the movements. The veins were varicose, and the uterus had remained prolapsed after delivery. A purgative was ordered, followed by friction with oil of turpentine and the internal exhibition of the spirituous extract of nux vomica, commencing with half a grain and increased to one grain three times a day. The result was so completely satisfactory, that the motility and sensibility were entirely restored, and on March 3rd the patient was discharged cured."

Case XXIX.—*Hemiplegia.*—For this case I am indebted to Surgeon Forrest. Mrs. H., aged 29, was confined of her second child on Friday, June 10, 1853, after a natural labour of about five hours, the second stage being short. Considerable hemorrhage occurred after delivery, producing fainting, &c., when Mr. Forrest was called in consultation. By means of a compress beneath the binder, and the application of cold, the discharge was controlled, and the patient progressed favourably, with abundance of milk, and the lochia natural, until Tuesday, June 14, when the lochia ceased without any apparent cause, and without uneasiness of any kind until Friday, June 17th, the eighth day after her confinement, when she was seized with paralysis of the right leg and arm, without headach or any other premonitory symptom. The muscles of the face were unaffected, the sight and speech were perfect, the pupils natural, and the intellect intact. On the following morning, June 18, she had a severe attack of convulsions, which affected the entire body, and the paralyzed extremities as well as the others, after which Mr. Forrest found her in a state of stupor. She had eight fits on this day. On Sunday she continued in a state of stupor, from which, however, she could be roused, and on this day also the convulsions recurred, though rarely, after which they ceased altogether. The pulse was quick, the intellect before and after the convulsive attack was clear, the speech perfect, the eyes natural, the sensibility of the paralyzed limbs unaltered, but the motor power entirely lost. After the convulsions she complained of headach, but this gradually ceased, and she recovered by degrees the use of her arm and leg in about two months. No external cause could be discovered for the attack; she had neither anxiety nor shock, was in good health previous to labour, and was neither liable to headach nor hysterical attacks. The hemorrhage after labour precluded blood-letting, so that the treatment consisted chiefly of counter-irritation by mustard cataplasms, turpentine and assafœtida enemata, four-grain doses of camphor every second hour, purgatives, &c. On Saturday, June 18, Mr. Forrest had

the benefit of Dr. Montgomery's assistance in consultation. The patient is quite well at the present time.

Case XXX.—*Hemiplegia.*—The following case, which also occurred after hemorrhage, is related in a letter from Dr. Ley to Sir Charles Bell[a]: "Mrs. W. was delivered by a midwife at Kilburn. The labour was easy, but followed by profuse hemorrhage upon the separation of the placenta from the uterus. She revived from the state of exhaustion immediately consequent upon the loss of blood, but at the end of about three or four days became feverish, and complained of severe headach; for a week, however, she had no other assistance than that of the midwife. At the end of that time (about ten days after delivery), the headach continuing, and being now accompanied with some degree of 'numbness on one side,' I was requested to see her. I found her labouring under severe headach, not confined to, but infinitely more violent upon one side than the other, and occupying the region of the temporal and occipital bones, above the mastoid process, and attended with considerable pulsation. Upon one side of the body there was such defective sensibility, without, however, corresponding diminution of power in the muscles of volition, that she could hold her child on the arm of that side so long as her attention was directed to it; but if surrounding objects withdrew her notice from the state of her arm, the flexors gradually relaxed, and the child was in hazard of falling. The breast, too, upon that side partook of the insensibility, although the secretion of milk was as copious as in the other. She could see the child sucking and swallowing, but she had no consciousness, from feeling, that the child was so occupied: turgescence of that breast produced no suffering, and she was unconscious of what is termed *the draught* on that side, although that sensation was strongly marked in the other breast. Upon the opposite side of the body there was defective power of motion, without, however, any diminution of sensibility. The arm was incapable of supporting the child; the hand was powerless in its gripe; and the leg was moved with difficulty, and with the ordinary rotatory movement of a paralytic patient; but the power of sensation was so far from being impaired that she constantly complained of an uncomfortable sense of heat, a painful tingling, and more than the usual degree of uneasiness from pressure, or other modes of slight mechanical violence. Medicinal agents, including bloodletting, general and local, blisters, purgatives, &c., directed, first by myself, afterwards by Dr. P. M. Latham, to whose care I di-

[a] Bell on the Nerves, Appendix, No. 85.

rected her in the Middlesex Hospital, were of little avail, and she left the hospital scarcely, if at all, benefited. At the end of a few months she again proved pregnant. Her delivery at the full time was easy, and unaccompanied with hemorrhage or other formidable occurrence; but at the expiration of about ten days she complained of numbness on both sides. The articulation was indistinct; she became more and more insensible, and sunk completely comatose. Upon examination of the body, no positive disorganization of the brain could be detected. The ventricles, however, contained more than the usual serum; and there were found, more especially opposite to the original seat of pain, thickening and increased vascularity of the membranes, with moderately firm adhesions in some parts; in others an apparently gelatinous, transparent, and colourless deposit interposed between them. Such is the outline of a case which I have been in the habit of quoting in my lectures as an illustration of one of the pathological conditions which I have repeatedly observed as a consequence of great and sudden loss of blood, and as a proof that it is a state of local congestion, allied if not amounting to actual inflammation."

Case XXXI.—*Paralysis of Face and Arm.*—Mrs. S., aged 43, was confined of her thirteenth child (all of whom are living) in June, 1844. Her labour was perfectly natural, neither preceded, nor accompanied, nor followed by any unusual symptom, until the seventh or eighth day: in the evening of which day, when quietly talking with her husband, she suddenly commenced exclaiming, "Conveniency, conveniency, conveniency." Upon attention being directed to her condition, the mouth was observed to be quite drawn to one side, and complete paralysis of one arm existing. The leg of the same side was not affected. She was not nursing; the lochia were quite natural, and the bowels free. When Dr. Duke first saw her, the only additional symptoms he noticed were, a very quick pulse, and some difficulty of articulation. Cold to the head, aperients, and slight mercurialization, were the remedies employed, and they were successful, for she recovered the use of the arm and the power of speech in a fortnight. The quick pulse continued for some months, together with a certain amount of indistinctness of vision, for which she came to town, and I saw her, in consultation with Dr. Jacob and Dr. Duke. We advised counter-irritation, and a tonic treatment, under which she recovered perfectly.

Case XXXII.—*Hemiplegia.*—Mrs. K., aged about 38, was delivered of her fifth child, September 15, after a very easy labour. She was a woman of a very fragile constitution, and can

hardly be said to have ever recovered from the inanition caused by incessant vomiting in a former pregnancy. She had not suffered, however, from headach or giddiness, and her stomach and bowels were in pretty good order during this pregnancy: neither had she any œdema or other local complaint. On September 16 and 17, and up to noon of September 18, she continued quite well. The lochia were natural, and there was a sufficient secretion of milk. At noon, September 18, I was sent for, as they thought that she did not seem well, and I found her hemiplegic on the left side. She was not, and the nurse believed that she had not been insensible, and she could speak pretty well, although her mouth was drawn to one side. The motor power of the arm and leg entirely lost, but the sensibility not impaired; pulse 120. A few leeches were applied to the temples, and the head was shaved and blistered: the bowels were too irritable to bear mercury. By these means, and a repetition of the blister, and afterwards the insertion of a seton in the arm, she seemed, much relieved. She remained perfectly intelligent, spoke well, gradually acquired the power of moving the leg, and, in a less degree, the arm; her face had recovered its natural expression, and ceased to be drawn to one side; the appetite was good, and the bowels regular; the only symptom which made me uneasy was the quick pulse, which never fell below 100. October 2nd. She felt quite well this morning; as the bowels had been confined, she took a pill last night, and when it acted, she got up to the night-chair; whilst sitting there she became very faint, and never afterwards rallied. She died at 8 P.M., of the same day, without any increase of paralysis, without coma or stertor; in short, without any new symptom. No post-mortem examination could be obtained.

Case XXXIII.—*Facial Paralysis.*—Dr. Ireland has furnished me with the following record of three cases in one family. Mrs. O., aged 34, was confined of her fifth child, November 28, 1853, and at the end of December was attacked by paralysis of the right side of the face, indistinct vision, ptosis of the right eyelid, &c. Under the influence of leeching, blistering, and mercury, she recovered. Her mother had a similar attack after her confinement, which proved fatal; and her sister had suffered from paraplegia for years, which always increased after her confinements until her death.

Case XXXIV.—*Hemiplegia.*—Mrs. A., aged 26, was confined for the fourth time on Saturday, November 12, 1853, after a labour of two or three hours, the second stage being under one hour. She had enjoyed excellent health during pregnancy; had no headach or derangement of the stomach or bowels, no œdema; nor was she subject to nervous or hysterical attacks.

She was neither plethoric nor anemic. After her confinement she recovered, without a single drawback up to the seventh day, November 18th, on which day, at 9 A. M., after speaking to the nurse quite composedly, but without making any complaint, she became insensible, with some twitchings of the face, but without any other convulsive movements. The insensibility lasted but a few minutes, but when she recovered she was found hemiplegic on the right side, with some difficulty of speaking. These symptoms gradually diminished, however, and at 3 P.M., when Dr. Duke requested me to see her, she could move both leg and arm, and grasp my hand firmly, and speak quite intelligibly. She was quite intelligent, but there were some words which she either could not pronounce or could not remember, although she recognised them when mentioned, and assented, nor could she put out her tongue freely. She said that she had no pain in the head, or anywhere else; the eyes were clear and bright, the pupils well dilated, and amenable to light, which, however, caused her no annoyance. The pulse was 140, small, thready, and fluttering. There was a slight degree of tenderness in the right iliac region, which disappeared soon after; the lochia were abundant, natural in appearance, and free from unusual odour; and she had plenty of milk. After very minute inquiry, neither Dr. Duke nor I could detect any cause for the attack. Dr. Duke had applied six leeches to the forehead; had given moderate doses of blue pill and opium, which were continued; and had applied sinapisms to the legs, and a blister to the nape of the neck. She continued pretty much in the same state during the day, but in the evening she had another attack of paralysis, accompanied by very slight twitchings of the arm, after which the loss of power was much more complete, although she retained perfect sensibility throughout.

November 19, 10 A. M. She slept at intervals during the night, pulse 140; small and weak. She can still move the leg a little, but the arm scarcely at all; her speech is thicker, and the difficulty of getting out certain words increased; but she shows that she understands everything that is said. The bowels have been moved, and the bladder emptied; but, from the difficulty of moving, she passes all under her, though not unconsciously. The same remedies were continued, the head shaved and blistered, and chicken broth allowed.

November 20, 10 A.M. In much the same state as yesterday, except that her pulse has improved in strength and volume, and is only 120. She has no pain at all, is quite intelligent; the expression of her face calm and easy; she cannot move the arm, but it is quite sensitive; the leg she moves a little. The bowels were moved, and the urine passed. We had this day

the advantage of Dr. Stokes' assistance, and as he concurred in our plan of treatment, the pills of mercury and opium were continued, another blister applied, and a mixture of ammonia, in infusion of orange peel, ordered.

November 21, 10 A.M. Dr. Montgomery visited her with us this day; we found the paralytic affection in the same state as yesterday, but she seemed not quite so well, in consequence of having passed a sleepless night, and from the bowels having been acted on too freely by the mercury. Pulse 120, weak, but fuller and more steady than they were two days ago. Neither Dr. Stokes nor Dr. Montgomery was more successful than we had been in detecting the exciting or the pathological cause of the attack. The pills were ordered to be omitted, and a chalk mixture, with a few drops of laudanum, substituted. Another blister was applied to the head.

November 22, 10 A.M. Our patient seemed better this morning, more lively and intelligent; she can move the leg more, but the arm and hand are quite powerless; the bowels are more quiet, and she takes a little food well. Partly from her inability to use the bed-pan, and partly from her passing both urine and fæces together when she did use it, we had no opportunity of examining the former until to-day. The nurse had always told us that it appeared natural, but this day we procured a quantity, which I brought away for analysis. Unfortunately, the cork came out of the bottle, and all was spilled except about half an ounce. This, though insufficient for an accurate quantitative analysis, was enough to show the presence of a large proportion of albumen, with epithelial scales, pus corpuscles, and the urates of ammonia and soda.

Further visits on my part were unnecessary, but Dr. Duke was kind enough to furnish me with specimens of the urine passed in the nights of November 23rd, 25th, 26th; and my intelligent young friend, Mr. Charles Leet, has given me the following careful analysis of each.

No. 1.—Nov. 23. Urine, pale-yellow in colour, faint, peculiar odour, feebly acid reaction. Specific gravity, 1028·500.

Water, ...		934·850
Solid constituents, ...		65·150
Urea, ...	14·591	
Uric acid, ...	1·250	
Fixed salts, ...	11·166	
Albumen, ...	19·225	
Ammonia, salts, and extractive matter,	18·918	
Amount in 1000 parts of urine,	65·150	

No. 2.—Nov. 24. Physical characters the same as the last, but with a much smaller sediment. Specific gravity, 1024·250.

Water,		943·087
Solid constituents,		56·913
Urea,	18·340	
Uric acid,	1·200	
Fixed salts,	9·245	
Albumen,	10·928	
Ammonia, salts, and extractive matter,	17·200	
Amount in 1000 parts of urine,	56·913	

No. 3.—Nov. 26. This specimen was of a deeper yellow colour, and had a stronger reaction. Specific gravity, 1014·500.

Water,		969·658
Solid constituents,		30·342
Urea,	9·250	
Uric acid,	1·909	
Fixed salts,	6·100	
Albumen,	3·833	
Ammonia, salts, and extractive matter,	9·250	
Amount in 1000 parts of urine,	30·342	

The following Table will afford a comparative view of each specimen with the others and with the average standard in health. As the quantity passed in twenty-four hours could not be ascertained, the normal quantity, 30 oz., has been assumed:—

	Normal Average.	Specimen No. 1.	Specimen No. 2.	Specimen No. 3.
Amount of urine in twenty-four hours,	30 oz.	30 oz.	30 oz.	30 oz.
Specific gravity,	1019	1028	1024	1014
Solids,	570	840	720	420
Urea,	218	188	228	121
Albumen,	...	155	134	39

Thus we see that the solid matter in No. 1 and No. 2 is far above the average of health; that the quantity of urea is nearly as much below it, except in No. 2, where it is in excess; and that there is a large proportion of albumen, although diminishing with each specimen. It may fairly be presumed, I think, that the

disproportion of these constituents was even more remarkable at an earlier period of the disease, and for this reason I cannot avoid expressing my regret that I did not bestow more care upon it.

I have said that I did not see the patient after November 22nd, but Dr. Duke informs me that she continued to improve slowly up to November 25th, after which, for a few days, she seemed not so well; her intelligence was less, and she seldom spoke, but answered by a nod or a shake of the head; she retained the power of moving the leg, but not the arm. Nov. 26th. There was barely a trace of albumen in the urine. Nov. 30th. Dr. Duke informed me that our patient is again improving slowly. Dec. 12th. Up to this day the improvement had continued, slowly indeed, but quite marked. Her intelligence was restored, her bodily strength increased, her appetite better; in everything, save the impotence of the arm and leg, she was going on most favourably. During the morning she seemed very comfortable, and was talking cheerfully with her sister. At one o'clock she raised herself to a sitting posture in bed, and took some gruel, feeding herself with her left hand. As she finished, some remark of her sister's excited a fit of hearty laughter, after which she suddenly exclaimed, "Oh dear! Oh dear!" fell back insensible, and expired almost immediately.

Post-mortem Examination, Dec. 14, 2 P.M., forty-eight hours after death, by Dr. Duke and myself.—There were the usual marks of the gravitation of the blood, but no sign whatever of any putrefactive change; the body was in good condition, and a layer of fat, an inch thick, was found on cutting through the abdominal integuments. The head was first examined: there was no turgescence of the scalp, nor, when the skull was removed, was there anything abnormal detected about the dura mater. On removing this covering we found the superficial vessels moderately congested, except at one part of the anterior lobe of the right hemisphere, which was quite pale and bloodless, with a slight effusion of serum beneath the arachnoid. But the most memorable fact noticed at this stage of our examination was, that every blood-vessel contained bubbles of air, alternating with globules of blood, giving to each vessel a beaded appearance, and this extended to very minute vessels, and to those in the division between the hemispheres. We traced the blood-vessels as minutely as we could with the naked eye, but could discover neither obstruction nor obliteration. The brain was then carefully removed; the upper portion of the spinal marrow and the nerves appeared quite healthy; there was no morbid appearance about the base of the brain; the pons varolii

and the parts adjacent exhibited neither congestion externally, nor bloody points when cut into, nor any change in the firmness or appearance of their structure; the right hemisphere was healthy throughout, of its usual firmness and appearance, and, when divided, free from vascular points. In the anterior lobe of the left hemisphere, just about the anterior termination of the ventricle, we found the white cerebral substance, and, to a limited extent, the gray matter in the neighbourhood, reduced to a pulpy condition, about the density of gruel; the texture was completely destroyed for about an inch and a half in length by half an inch in breadth; the colour was very little changed, was certainly not redder than usual; posterior to the diseased part the tissue seemed quite natural; there was no hardness nor vascularity,—nothing, in short, to mark the transition from diseased to healthy structure. Again, in the posterior lobe, there was a similar, but smaller, spot of softening, without surrounding vascularity or hardness. We remarked, indeed, that the bloody points generally seen upon cutting through the substance of the brain were less numerous than usual. Dr. Lyons examined a portion of the softened part, and he found nothing but exudation corpuscles, with the debris of cerebral fibres; neither purulent nor serous infiltration; no other morbid appearance was discovered in the brain or cerebellum, and there was not above an ounce of serum escaped.

The lungs were free from adhesions, and perfectly healthy.

The heart was of the usual size, its walls of the ordinary thickness, and its cavities normal and empty; the auriculo-ventricular and aortic valves were complete, perfect, free from vegetations, and of the usual thinness.

On opening the abdomen we found no trace of peritonitis; the stomach, the greater portion of the small, and all the large, intestines, were perfectly healthy; in one part of the small intestines we found the coats stained of a reddish-brown colour, and the mucous membrane quite softened and pulpy.

The same reddish-brown colour extended to the contents of the pelvis; we found the uterus nearly reduced to its natural size (five weeks after delivery); its walls were of their natural thickness, and apparently healthy; the cervix was dark-coloured, and had still a bruised appearance; the cavity contained a thick, gelatinous, reddish-brown fluid, of which some had escaped through the vagina on to the bed; it had no putrid odour, but resembled not quite healthy menstrual fluid; the ovaries were small and healthy, but the broad ligaments and Fallopian tubes retained an unusually vascular appearance, and in the folds of the ligament was a cyst as large as a grape.

The kidneys were dense, and one much larger than the other; when cut into they exhibited great congestion, and from the divided tubes purulent matter escaped.

The other viscera were perfectly healthy.

1. I shall now give a summary of the foregoing cases, and make a few remarks upon the more important points connected with them. With regard to the numerical value of the cases, I should wish it to be understood that I consider the cases far too few to enable us to draw any very decided conclusions, although, as far as they go, the results are worth stating.

Of the 34 cases, in 22 the attack occurred during pregnancy; in 12, either during or after labour.

In 23 cases where it is mentioned, I find that with 10 it was their first child; with 1, the second; with 4, the third; with 2, the fourth; with 3, the fifth; with 1, the sixth; with 1, the thirteenth; and 1 had several children, but the number is not specified.

Of the 34 cases, there were 17 of complete hemiplegia, and 1 partial; 4 of paraplegia, in 2 of which only one leg was affected; 6 of facial paralysis; 5 of amaurosis; and 3 of deafness; but in some of these latter local palsies were combined with the cases of hemiplegia. Of 14 cases of hemiplegia, in which the side affected is mentioned, I find that 11 were of the right, and 3 of the left side.

Of the 34 cases, 4 died.

It may be well, however, to consider these cases somewhat more closely, and for that purpose they may be divided into two classes, those which occurred during pregnancy, and those which were attacked during or after labour.

2. Of the 22 cases in which paralysis occurred during pregnancy, 12 were examples of hemiplegia; 1 of paraplegia, which had occurred previously; 4 of facial paralysis; 2 of amaurosis; and 3 of deafness. There is no regularity as to the period of gestation at which the seizure took place, for of 13 cases in which this is mentioned, in 1 it occurred in the second month; in 1 in the third or fourth; in 1 in the fifth; in 1 in the sixth or seventh; in 3 in the seventh; in 2 in the eighth; and in 4 in the ninth month; from which it would seem, upon the whole, that it is in the latter months that pregnant women are most liable to the attack.

Of 19 cases, 11 appear to have been cured before or by delivery, and in 8 the disease continued for a longer or shorter time afterwards.

Of the 20 cases, only 1 died, and in this case it is evident that death was rather owing to disease of the brain, of longer

standing than the pregnancy, than to the paralysis which increased during that process; so that I do not think we can reckon it as impairing the comparatively innocuous character of these attacks during gestation.

In 3 cases only was the paralysis preceded by convulsions. In most of the cases it does not appear that there were any premonitory symptoms, little or no headach, or any other circumstance calculated to excite apprehension until the paralysis supervened. The characteristics of the palsy resembled very closely those of similar attacks unconnected with pregnancy: the motor power was enfeebled or altogether lost; in some the sensibility was increased, diminished, or modified; but in others, I infer from the silence of the reporter, that it was little, if at all, changed from its natural condition. The intellect seems to have preserved its integrity in all the cases. A peculiarity of great interest in many of these cases, and to which I shall revert by and by, is the presence of albumen in the urine, whenever that secretion was carefully examined.

3. The second class, consisting of 12 cases, is characterized by the attack occurring during or after labour. It is remarkable that in 3 cases only (Cases xxiii., xxiv., xxv.) did the paralysis take place during labour, and of these, 2 were cases of convulsions; in all the others it not merely succeeded labour, but in most cases after an interval sometimes considerable: for example, in Case xxiii. it took place on the first day after delivery; in Case xxvii., two days afterwards; in Case xxxii., three days; in Case xxxiv., seven days; in Cases xxvi., xxix., xxxi., eight days; in Case xxx., ten days; and in Case xxxiii., a month afterwards.

Of these 12 cases, 5 were cases of complete hemiplegia; in 1 only the arm was affected; 1 was a case of complete paraplegia; in 1 the right, and in 1 the left leg only was paralyzed; 2 were examples of amaurosis; 1 of facial paralysis; and in 3 only of the cases of hemiplegia the face participated in the attack. In Dr. Ley's very remarkable case, the paralysis of the motor power of one side was accompanied by loss of sensibility on the other. In some of the cases the sensibility was diminished, in others unaltered, but in none increased. The phenomena of the disease were not peculiar: in the majority of the cases the attack occurred generally without warning, and without any obvious cause. In 2 cases convulsions terminated in amaurosis, but in Mr. Forrest's case the paralysis preceded the convulsions, and during the latter, the paralyzed limbs shared in the convulsive movements.

The duration of the disease varied a good deal, the para-

lysis gradually subsiding in most cases: in Case XXII., after several days; in Case XXIII., in six weeks; Case XXXI., recovered the use of the arm in a fortnight, but vision remained imperfect for some months; in Case XXXIV., in a month; in Cases XXVIII., XXIX., in two months; Case XXII., recovered the power of walking in two months, but was then attacked by another disease which proved fatal; Case XXVI. left the hospital without improvement.

In 3 cases death occurred: in Case XXXII., on the fourteenth day, and in Case XXXIV., on the twenty-fourth day after the paralytic seizure. Dr. Ley does not mention on what day his patient died.

4. I have already alluded to the fact that in most of the cases the attack occurred without warning, and without apparent *cause*. Some cause there must be, of course, but it is much easier, in most cases, to say what it is not than what it is. For example, in none of these examples except one, did it appear to depend upon any external influence,—upon cold, exposure, violence, &c.,—or upon mental distress; in few, if any, was there evidence of previous cerebral congestion, or disease of any other organ.

It has been suggested that the palsy may be merely the termination of convulsions, and certainly some of these cases would seem to support this view; but if this were generally true, we should find convulsions more frequently preceding the paralysis, and, also, we should meet with more cases of convulsions terminating in paralysis. Now, in all the cases I have quoted, a large majority exhibited no convulsive movements at all, and, on the other hand, of all the cases of convulsions related by Drs. Collins, and M'Clintock and Hardy, there is not a single instance of such a termination; we must therefore refer both convulsions and paralysis to some common or different cause.

I have no doubt, as Dr. Romberg has observed, that in a number of cases, especially those which occur during gestation, the palsy is due to a reflex action from some organ or structure in a morbid condition, and in which the nervous system seems to be merely the channel of transmission, offering no central disorganization. In such cases the exciting cause may possibly be some injury or morbid condition of the generative organs, or perhaps merely a transient excitement, such as that of pregnancy. It is possible, also, that some of the instances occurring during gestation ought rather to be classed under the head of hysterical paralysis, as described by Drs. Laycock and Romberg, but it is not always easy to make the distinction.

Obstruction of the arteries has been recently shown by Professor Simpson[a], to be an occasional occurrence in child-bed, either from arteritis, a coagulum, or a detached vegetation: and a degree of paralysis, may be the result; but inasmuch as the death of the limb, and ultimately of the patient, is the direct consequence of such an occurrence, the history of the cases I have quoted removes from them the suspicion of being thus caused.

It might naturally be supposed that the stress and exertions during labour which give rise to such great congestion of the face and head, by also occasioning congestion of the brain, might be considered one of the principal causes, but such a supposition is not borne out by facts, for, excluding the cases of convulsions, in only one case did the paralysis occur at the time of labour; in all the others it either supervened before labour, or subsequently, at a time when all such direct action must have ceased, and in some, after such an interval that we cannot suppose it even a remote effect of the parturient agony. On the other hand, when we remember the number of severe labours in which no such attack occurs, or compare its frequency with that of convulsions during labour, we can scarcely attribute much influence to this cause.

Again, as we have seen, paraplegia has been attributed to severe and prolonged labour, and to the consequent mechanical pressure upon the nerves and muscles of the pelvis, and at first sight this seems an adequate and feasible explanation, and of which no one could deny the possibility; yet so far as our cases are concerned it can hardly have been so, for in all but one the labour was natural, easy, and not prolonged: in the exceptional case the patient had been delivered by the forceps; moreover, the period at which it occurred was too distant to justify our attributing it to this cause in the other cases. On the other hand, if we recollect the number of severe, prolonged, and instrumental deliveries which take place, without any such result, no example being recorded by Drs. Collins, M'Clintock and Hardy, or, with the exceptions I have quoted, in any of the reports of the British and foreign hospitals, so far as I am acquainted with them, I think we must also reject this peculiarity of labour as a necessary or frequent cause.

In two cases the attacks seem to have been connected with an anemic condition, consequent upon hemorrhage, either from the direct effect of a deficiency of the circulating fluid, or indirectly from the increased susceptibility of the nervous system, under these circumstances, to ordinary exciting causes.

[a] Edinburgh Monthly Journal, February, 1854.

In another case paraplegia appeared to result from cold; but, in the majority of cases, as I have already observed, there was neither plethora nor anemia; neither exposure, want, injury, advanced age, mental distress, nor sudden shock; in short, there was no apparent cause.

5. Unfortunately for the cause of science, there are very few post-mortem examinations on record, from which we might decide with some degree of certainty upon the nature of the affection. In all the slighter and more partial cases, life is preserved, and when death occurs in the more severe instances, permission to examine the body cannot always be obtained. Of the four fatal cases I have here detailed, two only were examined: in these, and I doubt not, in the other two also, disease of the brain or its membranes existed. In Dr. Ley's case, he states that, "no positive disorganization of the brain could be detected. The ventricles, however, contained more than the usual serum; and there was found, more especially opposite to the original seat of pain, thickening and increased vascularity of the membranes, with moderately firm adhesions in some parts; in others an apparently gelatinous, transparent, and colourless deposit, interposed between them." In short, there appears to have been an attack of partial meningitis, and the contrast between the peculiar train of symptoms to which it gave rise, and the absence of all symptoms except the palsy in Dr. Duke's case, is very interesting, when we remember the remarkable disorganization we discovered in the latter case.

Now in these cases we may fairly assume that the palsy and death itself were the result of the disease of the brain and its membranes, but to what are we to attribute the slighter and more numerous cases? Do they not appear to belong to the class described by Dr. Abercrombie, as "depending upon a cause which is of a temporary nature, and capable of being speedily and entirely removed."

6. What is this temporary cause, producing so serious a disturbance, and yet scarcely, if at all, endangering life? May it be the one to which Dr. Latham refers, as observed "in those convulsions and apoplexies which appear and disappear, the chief circumstance which attracts our attention being albuminous urine"? At any rate it deserves our careful attention. Of the fact of the concurrence of albuminuria with certain affections of the nervous system during pregnancy and childbed, there can be no doubt whatever. Both Drs. Lever and Simpson have detected it in cases of convulsions during pregnancy and labour: the former observes:—"I have carefully examined the urine in every case of puerperal convulsions that has since

come under my notice, both in the Lying-in Charity of Guy's Hospital, and in private practice, and in every case but one, the urine has been found to be albuminous at the time of the convulsions." "I have further investigated the condition of the urine in upwards of fifty women, from whom the secretion has been drawn during labour by the catheter, care being taken that none of the vaginal discharges were mixed with this fluid; and the result has been that in no cases have I detected albumen, except in those in which there have been convulsions, or in which symptoms have presented themselves, which are readily recognised as precursors of puerperal fits." Dr. Simpson's observations about the same time, and those of more recent observers, Sabatier, Legroux, Richelot, and others, have confirmed the conclusions of Dr. Lever as to the presence of albumen in the urine in cases of puerperal convulsions, so that no doubt now exists as to the fact, although we occasionally meet cases of convulsions without albuminous urine, and of albuminuria without convulsions[a].

Now, as paralysis in some cases occurs in connexion with convulsions, if not as a consequence of them, we might, not unnaturally, expect albumen in the urine of such patients, and accordingly, in a patient of Dr. Lever's, and in others, we find that it has been detected.

But we may go a step further, and state that in cases where no convulsions have preceded the paralysis, albuminuria has been equally observed. Dr. Lever says of his cases, that in none in which he examined the urine did he ever fail to find albumen, and the great experience of Professor Simpson is in close accordance with this, as may be seen by the quotations I have given, and by the cases with which he has favoured me. This was observed also in Dr. Duke's case, where the paralysis succeeded the delivery; and in which I think there is ground for believing that the albumen had diminished at the time the urine was first examined. In all probability it would

[a] It may be of interest to append Dr. Seyfert's conclusions on this subject:— "1. Albuminuria is not an essential accompaniment of normal, healthy pregnancy. 2. The theory, ascribing albuminuria to the pressure of the enlarged uterus on the renal vessels, is inadmissible. 3. When anasarca, from Bright's disease, occurs during pregnancy, the patients are seldom attacked by eclampsia. 4. The albuminuria, in cases of eclampsia, is occasioned by the interruption of the functions of the respiration and circulation by the attack. 5. In such cases the albuminuria terminates with the attack. 6. Albuminuria is not present in all cases of eclampsia. 7. Albumen is found in large quantities in the urine of epileptics, *immediately after an attack;* but not invariably after every seizure, or in every case of the disease. 8. Provided there be no Bright's disease, this albuminuria among epileptics ceases soon after the convulsions, and only returns after the next attack."—*Edinburgh Monthly Journal*, Feb., 1854, p. 168.

have been detected in many others, had an investigation been made.

Thus we find that albuminuria may be a marked symptom in puerperal convulsions, whether terminating in paralysis or not; and in the palsy of pregnant and puerperal women, whether partial or complete, whether local or general: and if the observations are yet too few to draw any very positive conclusions, it is, I believe, because our attention has not been drawn to the subject. And when, in addition, we find, as Dr. Lever states, that as the albumen diminishes, the paralysis subsides, we can hardly doubt that there is some important connexion between them.

What then is the precise pathological significance of albuminuria? We may assume as established, that although it occurs in Bright's disease, *it alone is no proof of the presence of that disease;* but in the present state of our knowledge it is very difficult, perhaps impossible, to come to any very decided conclusion upon the matter. It is conceivable that an unusual, morbid, or noxious ingredient in the urine may be produced in either of three ways:—1. By simple elimination from the blood, in which it was present; 2. As the result of diseased action of the kidneys, excited either by some noxious principle in the blood, or by a morbid condition of these organs; or 3. As a new compound, the result of chemico-pathological action, which we may or may not be able to explain.

Now, albumen in the urine cannot be placed under the latter category, as it is not a new principle, but one already existing in the blood. Nor does it come under the first, for although it is possible that it might be eliminated from the blood in which it is present, it cannot be as a noxious element, nor would this simple elimination account for the condition of the kidneys or for the concomitant symptoms. So that it would appear this secretion of albumen must be owing to some disordered action of the kidneys, excited by some morbid element, in kind or degree, which they are endeavouring to separate from the blood. This seems at least to be the opinion of a high authority, Dr. George Johnson, of London, who, in describing acute desquamative nephritis, in which albumen is so largely secreted, observes, "that all the changes of structure commence in the secreting cells of the gland, and are the result of an effort made by the cells to eliminate from the blood some abnormal products, some materials which do not naturally enter into the composition of the renal secretion"[a]. This view is further con-

[a] Diseases of the Kidney, p. 105.

firmed by a post-mortem examination into the state of the kidneys themselves in albuminuria. Dr. Handfield Jones, in a recent paper, has described three varieties: "The first is the condition of engorgement, such as is seen in those who die in the early stages of acute anasarca, or in that of dropsy succeeding scarlatina. The organ is enlarged, dripping with blood in every part; its tissue not destroyed, but many of the tubes are seen, under the microscope, to contain coagula of exuded fibrine, entangling blood globules, and more or less of epithelium." "The second form of diseased renal structure is that of the large, heavy, often mottled and pale kidney. In this there is no hyperemia, but rather the reverse state usually exists. The cut surface has not the appearance of healthy structure, and gives one the idea of some matter having been implanted among the natural constituents, so as to obscure them and to produce a confused aspect. The tubes are found impacted with epithelial matter, but not by any means constantly obstructed or blocked up, although they may be irregularly dilated, &c." "The third variety of morbid change is that so familiar to observation as the dwindled, granular kidney"[a].

When we consider the temporary nature of the albuminuria in many of the cases of paralysis, we need have little doubt that the condition of the kidneys answers to the first variety here described, or that of extreme congestion, and this opinion is confirmed by the examination of Case XXXIV., in which we found a high degree of congestion, which had indeed passed into a more advanced stage. I think, therefore, that we may fairly assume the albuminuria is due to a congested state of the kidneys, and I confess I cannot but think that the explanation given by Dr. G. Johnson and others, that this congestion is excited by the effort to eliminate some noxious element from the blood, is more in accordance with our present knowledge than any other, yet I must not omit to mention that by some this congestion has been attributed to pressure of the gravid uterus upon the renal vessels. Dr. Seyfert, as we have seen, rejects this mechanical explanation, and seems to attribute the albuminuria to the eclampsia, in consequence of the interruption of the functions of respiration and circulation.

But, if the former theory be true, what is this morbid element, morbid in kind or degree? It is very difficult to answer this question. Dr. Simpson suggests that it may be an excess of urea or some morbid quantity or quality of caseine in the blood. Dr. George Johnson's observations seem to prove that

[a] Medical Times and Gazette.

in these cases, in addition to a change in the proportion of the normal constituents of the blood, of which the diminution of its albumen is one, there is always an excess of urea.

Then it may be asked, "to what is the effect upon the nervous system owing?" One can conceive that it may result either—1. From the continued presence of the noxious principle in the blood; or, 2. From the balance of the constituents of the blood having been destroyed; or, 3. From the diseased condition of the kidney,—though to which of these we ought to attribute it, would be difficult to decide.

But at whatever conclusion we arrive with respect to these interesting points, I am sure all will agree with me, that, taking the circumstances into consideration, it is probable the kidneys play a more important part in these paralytic affections than has been suspected, and that the subject deserves more attention than it has received. For, we find that in cases of convulsions terminating in paralysis, we may have albuminuria; in paralysis before delivery, without convulsions, we may have albuminuria; in paralysis occurring after delivery, we may have albuminuria; and further, that in the slighter cases, both the convulsions and paralysis diminish with the decrease of the albuminous secretion. Whether therefore the paralysis be caused by the state of the kidneys; or the renal congestion and paralysis be both the result of some morbid matter in the blood circulating through the system; it is clear that a new element may be added to those which have usually been considered as giving rise to paralysis.

7. Nor is this barren theory only, but, if it be true, it has a direct bearing upon practice, inasmuch as our attention ought not to be confined to the secondary affection of the nervous system in such cases, but must be directed to the relief of the renal malady, and to the restoration of the kidneys to such a state of efficiency as may enable them to remove the morbid constituents of the blood; and for our encouragement, we have seen that a diminution of albumen in the urine is followed by mitigation and cure of the paralysis. For the latter affection, blood-letting, general when the system will bear it, or local by means of leeches or cupping; blisters, purgatives, and mercury, are the remedies usually employed; these must be modified according to the condition of the patient, the circumstances of the attack, and the duration of the disease. When much blood has been lost during labour, bloodletting must be omitted, and we must confine ourselves to counter-irritation; perhaps a series of small blisters to the neck, down the spine, or along the limb, will be the best mode of proceeding. The

patient's strength must be supported judiciously by good diet, and it is quite possible that some stimulant, such as ammonia or camphor, may be necessary. When the paralysis has become chronic, strychnia or galvanism may be found useful: and I believe Dr. Stokes has found galvanic acupuncturation very beneficial in facial paralysis.

The renal disorder should never be treated by diuretics, but by external irritants, such as mustard poultices, or rubefacient liniments to the loins, and internally by diaphoretics, as suggested by Dr. Osborne[a], of this city, and when more chronic, by gallic acid, iron, &c.

Before concluding, I will shortly direct attention to some peculiarities in the case which was the immediate cause of my bringing the subject forward. The points of peculiar interest are, the state of the brain itself, the air in its vessels, the condition of the kidneys, and the immediate cause of death.

1. *The Softening of the Brain.*—Of the various premonitory symptoms mentioned by Abercrombie, Lallemand, Rostan, Durand-Fardel, Rowland, &c., such as headach, diminished or modified sensation, loss or weakening of intelligence, &c., our patient exhibited none: up to the occurrence of the paralysis she had been entirely free from either local or general distress; she was also exempt from most of the symptoms which usually attend or follow the attack itself: she had no headach; no twitching of the muscles, except for a few seconds at the first seizure; no rigidity of the flexors; no disturbance of any special sense, or of sensation generally. The face had its natural placid expression; the eyes were intelligent, and sensitive (but not too much so) to light, and the ears to sound; her respiration was easy, and not hurried; her pulse was very quick; and either her memory of some words, or her power of pronouncing them, was imperfect; but these, with the loss of power in the arm and leg, were the only symptoms when I saw her, and even these diminished after a time. Again, of all the exciting causes usually enumerated,—such as hereditary predisposition, temperament, age, occupation, shocks, mental distress, abuse of spirituous liquors, cold, disease of the heart, lungs, digestive system, or kidneys,—there is but one (disease of the kidneys) of which we had the slightest ground for believing that it could have had any influence whatever in the production of the disease. After the most searching investigation during life, it was impossible to discover any apparent

[a] On the Nature and Treatment of Dropsies, &c. 1837.

cause. So far, then, the case is certainly peculiar: with none of the usual exciting causes; without premonitory symptoms; and the actual symptoms limited to the loss of power, a rapid pulse, and a slight difficulty of utterance; it seems to answer better to Dr. Rowland's description of "latent softening" than any other[a]. Again, if we take the appearances on dissection, they differ a good deal from those in the ordinary forms of acute softening. The colour of the white cerebral substance was but little changed, and certainly it was not reddened; the neighbouring parts were not more vascular than usual; if there was any difference, I should say that there were fewer red points than ordinary when cut across; there was not the slightest induration of the tissue surrounding the softened portion, nor had the latter any very defined limits, but seemed to pass gradually into the healthy tissue; there was neither infiltration of serum nor purulent matter, but merely exudation corpuscles and the debris of cerebral fibres. These appearances resemble pretty closely those of "white softening," as laid down by Dr. Rowland, or those of "chronic softening," by Dr. Gross[b].

Lastly, the duration of the disease was somewhat prolonged for a case of acute softening. From the observations of Lallemand it appears that nearly one-half die within the first seven days from the attack; two-fifths at the end of the second week; and the remainder at intervals of one, two, or three months. Of 59 cases of acute softening, examined by Durand-Fardel, 11 terminated fatally within the first forty-eight hours, 15 before the fifth day, 17 before the ninth day, 7 from the ninth to the twentieth day, and 9 from the twentieth to the thirtieth day. As to the duration of chronic softening, Andral states that out of 105 persons, upwards of 16 survived the first month, more than 10 the second month, 7 reached the end of the third month, and 2 lived for three years.

What, then, was the nature of the softening in this case: and first, was it inflammatory or non-inflammatory? The history of the case, the absence of the usual symptoms, and of the ordinary post-mortem appearances in the brain, would rather lead to the conclusion that it was not the result of inflammation; and, if not, what state of the brain or its vessels gave rise to it? There was no evidence of fatty degeneration revealed by the microscope, nor could we detect obstruction of any vessel by the naked eye; although the state of the brain, I think, answers better to those cases where softening has fol-

[a] Pathological Anatomy, p. 355. [b] Ibid.

lowed obstruction and atrophy, than to those in which it resulted from inflammation or fatty degeneration[a].

A second question may be raised, which it is not easy to answer, viz.:—Was the softening acute or chronic? did it occur before the paralysis; or was the latter due to some other cause, which, continuing to operate, produced also, after a time, the *ramollissement?*

2. Now let me draw attention to—*the State of the Blood-vessels on the surface of the Brain.*—With the exception of the anterior lobe of the right hemisphere of the brain, whose vessels were nearly bloodless, all the other vessels, large and small, which we could see, contained bubbles of air, alternating with globules of blood, giving to them a curious beaded appearance. This could not have been the result of injury in removing the calvarium, for then only the larger vessels near the track of the saw would have been affected, whereas the smaller ones within the division of the hemispheres exhibited the same appearance. Nor could it have been from ordinary decomposition, for no other part of the body showed the least sign of decay, and the brain is far from being the first to undergo this change. Did it, then, take place during life, or after death? In speaking of similar cases, Vogel is of the latter opinion, for he observes, that "vesicles of air in the vessels of the arachnoid, if they actually existed during life and whilst the circulation was yet proceeding, would, in accordance with the ordinary laws of physics, be conveyed with the blood to the heart"[b]. I confess myself quite unable to offer any explanation of the cause or the period of occurrence of this phenomenon.

3. *The State of the Kidneys.*—It will be remembered that we found them very highly congested, one of them very much enlarged; when divided, their substance was dripping with blood, and purulent matter escaped from their tubes, but was not collected in either large or small abscesses. What is the effect of inflammation and suppuration of the kidneys? Rokitanski, in his elaborate chapter on this subject, remarks that one or both kidneys may be affected: "In the latter case, especially, it is liable to terminate fatally, in consequence of paralysis of the renal function with typhoid symptoms, resulting from the detention of urea in the blood: this is frequently complicated with serous effusion into the ventricles of the brain, or into the pulmonary tissue, followed by putrescence; or if the inflammation reaches a certain degree of intensity, suppuration, or

[a] Rowland on Softening of the Brain, p. 112.
[b] Pathological Anatomy, p. 31, *Trans.*

an excessive retrograde process, or atrophy, may result; or lastly, the affection may become chronic"[a]. Yet in the case before us we see that inflammation and suppuration existed not only without giving rise to these effects, for there were neither typhoid symptoms, paralysis of the renal function, effusion, nor putrescence, but with symptoms of quite a different character.

Dr. Simpson has published some cases of puerperal nephritis, which are more to our purpose, as showing a connexion between that disease and convulsions. I shall give an extract from one:—"The lady had so perfectly recovered, after a labour which was quite natural, as to have been out at church, &c. Seven weeks, however, after delivery, after some sudden and anomalous affections of sight and hearing, for thirty or forty hours previously, she was seized with most severe convulsions. Despite of free evacuations, &c., they continued to recur from time to time, and proved fatal in three hours; the patient, during that time, never being perfectly sensible. The pelvis of each kidney was filled with a whitish, purulent-like matter, and its mucous lining membrane coated with large patches of adherent coagulable lymph, or false membrane; the ventricles of the brain were distended with serous fluid; the urine, when tested, presented no trace of albumen"[b]. Here, then, we have inflammation and suppuration of the kidneys giving rise to convulsions; and we have seen that the step from convulsions to paralysis is but a short one, for we have seen them co-existent, and both, probably, owing to the same cause, viz., some noxious element in the blood. It strikes me, therefore, as possible that the disease of the kidneys may have been the first morbid process in this case. Then if, as Mr. Henry Lee and others believe, pus in the blood disposes it to coagulate, and there is no fixed rule where this coagulation shall take place, or any relation between its origin and this local effect, it may be that coagulation, in consequence of the absorption of pus from the kidneys, took place in some of the minute vessels of the brain, causing obstruction and atrophy, or softening. But I merely throw out this as a possible explanation, without wishing to lay any stress on a mere hypothesis.

4. *The sudden Death.*—We have seen, not only that the life of the patient was for weeks preserved with this amount of disease going on, but that her condition gradually improved. Her intellect was as perfect as ever; her appetite was restored; and she could raise herself in bed and feed herself, with her

[a] Pathological Anatomy, vol. ii. p. 191. Sydenham Society's Edition.
[b] Edinburgh Monthly Journal, Sept., 1847, p. 213.

left hand, of course: at this period, after a fit of hearty laughter, she fell back and died. What was the immediate cause of death? for nothing was discovered to explain it. There was neither hemorrhage, nor rupture of any organ, nor clot in the heart, &c. &c.

We know from the experiments of Bichat, Magendie, Piedagnel, and others, that air injected into the veins proves suddenly fatal; and also, that in surgical operations, sudden death has resulted from the ingress of air into the veins, as was observed by Beauchene, Dupuytren, Mott, Cooper, Warren, &c.; and Dr. Cormack has suggested this occurrence as an explanation of the sudden deaths which occur after delivery. But in the present case we have no evidence of the entry of air, and no obvious place at which it could enter; for the uterus, as we found, had recovered its natural size and condition. Or if the air in the vessels of the brain be taken as evidence, either of its entrance *ab extra*, or of decomposition, can we possibly assume that there was sufficient to paralyze the action of the heart. Without offering any positive explanation, I cannot but think that the termination of this case resembles more those cases of fatal syncope which occur after delivery; or that state which Mr. Chevallier termed "idiopathic asphyxia," than any other with which I am acquainted. In those cases the patient makes some sudden exertion, sits up, or rises from bed, &c., and falls back lifeless or dying: on examination, nothing is found to explain this sudden termination. So in our case, whilst there was disease sufficient to extinguish life, there was nothing discovered to account for the sudden death.

Art. XII.—*On Dislocation forwards of the Upper Extremity of the Radius.* By William Tagert, Senior Surgeon to Mercer's Hospital.

Dislocation forwards of the upper extremity of the radius is an accident of rare occurrence, often difficult to diagnose, and sometimes foiling the best-directed efforts to reduce it even when recent, Cooper, Cline, and other able surgeons, having failed in their attempts; and in some instances where reduction has been accomplished, it has been found impracticable to prevent a recurrence of the displacement; and further, there are so many points in relation to this injury upon which practical surgeons differ, and which can only be cleared up by an accumulated record of cases, that I am induced to give an example of a dislocation forwards of the head of this bone, lately un-

der my care in Mercer's Hospital, which was successfully and permanently reduced.

John Gahan, aged thirty-eight years, was admitted into hospital the 21st of November, 1853, having sustained an injury of the left elbow-joint a few hours previously. He states, that while driving a hackney car, with a passenger and luggage, to one of the railways, his left arm was placed inside a strap, which secured a heavy trunk that he was trying to keep steady; the trunk tilted from its place, dragging him from his seat, and, while endeavouring to save himself from falling, his arm was violently wrenched and he suffered extreme pain. On the evening of his admission, powerful, persistent, but ineffectual efforts were made to reduce it by forcibly bending the forearm over the knee placed in the flexure of the joint; and also by strong and continued extension by traction from the hand, and concentrated pressure upon the head of the radius.

He came under my charge on the following morning. I found his forearm slightly flexed and pronated; I could with difficulty bend it to a right angle; further flexure was impossible, a sudden check being given in the attempt. I could not straighten it fully; the efforts to extend it caused him much pain; the head of the radius was absent from its natural position beneath the outer condyle of the humerus; on making pressure at this point, the thumb sank into a yielding hollow; the motions of pronation and supination could be performed for him; the latter movement was somewhat restricted, and increased his pain; the head of the radius could not be felt in its new position, its depth, and thick coverings in a well-developed muscular arm obscuring it. The natural configuration of the limb was not altered except from some slight swelling.

With the judicious and effectual aid of my able colleague, Mr. Butcher, the bone was replaced in the following manner:—The patient was placed in a sitting posture, the trunk being fixed. A handle of a sweeping brush, with a towel wrapped round its centre, was placed in the flexure of the forearm, and maintained in this position by grasping it firmly above and below the elbow joint. Mr. Butcher with one hand seized hold of that of the patient, and bent the forearm round the brush handle, which was forcibly pulled in an opposite direction, while with the thumb of the other hand he pressed firmly on the upper end of the radius, pushing it towards its natural position, at the same time supinating the forearm and abducting the hand; after employing considerable force in these movements, the bone was reduced, with a prolonged creaking or tearing sound audible by the class of pupils. The man was

conscious of the reduction, exclaiming that it was in, and expressed himself as at once relieved from pain. The forearm could be fully bent, and the patient's hand placed upon his left shoulder; the head of the radius could now be felt in its natural position.

The forearm was next flexed to a right angle, and midway between pronation and supination; an angular splint, well padded, was placed on the inner aspect of the arm and forearm, and firmly secured by carefully applied bandages; a sling completed the apparatus; the splint was kept on for a period of six weeks, rarely requiring readjustment; on removing the retentive apparatus, the functions of the arm were perfect, and the patient pursued his ordinary avocation.

Much difference of opinion exists amongst authors and practical surgeons, in reference to the comparative frequency of the displacement of the head of the radius backwards or forwards, and some with considerable experience have never met with either accident.

Boyer doubts that the luxation forward can occur. Sanson denies its possibility. Mr. Adams, of this city, a distinguished surgeon and pathologist, states in a paper on the "Abnormal Condition of the Elbow Joint," in the Cyclopædia of Anatomy and Physiology, that the luxation backwards is the most frequent the upper extremity of the radius is liable to, and considers that there are physiological grounds to sustain his opinion; he remarks "that the joint is less sustained behind by muscles than in front; that there is more latitude given to pronation, and that the pronators are powerful muscles; that during forced pronation, the upper end of the radius has a strong tendency to pass behind the axis of the humerus; and further, that supination is not so frequent, the muscles that effect it not so powerful, and the oblique and interosseous ligaments which do not restrain pronation are rendered tense and oppose a forced supination, which is the movement most likely to be followed by luxation forwards."

Bransby Cooper, in his Lectures on Surgery, agrees in opinion with Mr. Adams, and accounts for the greater frequency of the displacement backwards from the greater extent of motion in pronation, and says in addition, that "the anterior edge of the lesser sigmoid cavity of the ulna projects considerably more than the posterior, which offers less resistance to the displacement of the head of the radius in the latter direction." These may appear convincing arguments to show, that the dislocation backwards *ought* to be more frequent than that forward, but that it is so, is very far from being proved. Thus we find,

that Sir A. Cooper, on the opposite side, tells us that he has not seen an example in the living body of the dislocation backward, but gives an account of one which had never been reduced that was found in a dead body; while, on the other hand, he gives us six examples of the dislocation forward which he witnessed.

Fergusson, an eminently practical writer, tells us in his Surgery, "that from the frequency with which the luxation of the head of the bone forward is met with in the dissecting room, I am inclined to think that the accident is often overlooked, and I believe it to be much more common than that backwards." Erichsen, a late writer, in his work, "The Science and Art of Surgery," says, the dislocation forward is certainly the most common, and that he has seen many instances of it.

A diversity of opinion likewise exists as to the position of the forearm in the dislocation forwards; most surgeons regard it as in a state of pronation. Bransby Cooper says, it is permanently supinated, and others (Erichsen), that it is in a mid state between pronation and supination. Erichsen further states that, "the whole of the outer side of the arm is deformed, being carried somewhat upwards." He gives a woodcut of the deformity; such did not exist in the case I have related, nor is it mentioned in any author that I am aware of.

One point more of disagreement may be noticed, which refers to the mode of reduction, in making the extension for that purpose. Sir A. Cooper advises that supination should be performed, "as this position draws the head of the radius from the upper part of the coronoid process of the ulna, upon which it would otherwise be directed." B. Cooper tells us to produce forcible pronation of the hand, "which tends to direct the head of that bone back to its natural cavity."

These few remarks are sufficient to show the confused, inaccurate, and conflicting opinions entertained upon the dislocations of the head of the radius; and whether we regard the question of its displacements above, or below at the wrist, it may be well called a "bone of contention."

Art. XIII.—*On Treatment as a Test of certain Pathological Conditions.* By Daniel Griffin, M.D., M.R.I.A., Licentiate of the King and Queen's College of Physicians in Ireland, and one of the Physicians to the County of Limerick Infirmary, &c.

I believe the practice of testing the existence and nature of pathological conditions by the effect of treatment upon them is of extensive use in the profession, though no one, so far as I am aware, has made it the subject of a particular essay, or ventured to give to it that development which I think its importance so well deserves. I am satisfied there is no man of experience who has not been obliged, on many occasions, to resort to its guidance, and some of the most skilful and judicious have referred to it as affording the only solution of their difficulties in circumstances often of a serious and alarming character. Medical writers do indeed very generally attempt to draw a distinction between the symptoms presented by different pathological states which resemble each other; but wherever this attempt is made, it will be observed that such distinctions are entirely too fine-drawn for practice; the differences are so slight and unessential, that, as a basis for treatment, no confident reliance can be placed upon them. Thus, to take one instance, Mr. Langston Parker, in his excellent treatise on "The Stomach in its Morbid States," after stating these difficulties strongly, gives[a] a table from Jolly, exhibiting the differences in the symptoms presented by nervous and inflammatory affections of the stomach, of which it may be said, that, while the distinctions are not by any means strongly marked, nor perhaps always well-founded in nature, they are in many instances entirely overthrown by several exceptional notes which Mr. Parker has placed, as the result of his own experience, at the foot of each page, showing, that so far from being well marked, or generally admitted, they formed matter for disagreement even between two pathologists of experience, who had made them the subject of their particular study. Indeed, Mr. Parker admits this fully a little further on, for he says[b], "The symptoms of vascular and nervous irritation of the stomach are sometimes so similar that the most experienced practitioner in diseases of this kind is occasionally at a loss to decide upon their precise pathological character. I attended a patient for two years with all the symptoms of chronic gas-

[a] Page 73. [b] Page 76.

tritis, which were accompanied by progressive emaciation. The peculiarity of the lancinating pains which were occasionally felt in the epigastrium, and the clean state of the tongue, made me suspect some cancerous affection of the stomach. The extreme restlessness of his nights led to the administration of opiates in the evening, after the disease had continued for eighteen months, when he was become much emaciated. From this time the signs of gastric disease began to decline, and at the end of some months, after having continued the opiates for the whole time, the patient had gained much strength, and was actually become fat. This, then, was evidently a disease of sensibility presenting all the symptoms of a chronic inflammatory state. . . . . These nervous affections may consist sometimes in excitement (erethism), at others in diminished tone (atony), of the nervous influence of the stomach. They resemble, however, sometimes so closely the inflammatory affections, that the results of treatment are, occasionally, our only guides as to their nature." Again, towards the close of the work[a], he says, "There are many forms of gastric disturbance which resemble hyperemia, or inflammation, which are not benefited, but rather rendered worse by a treatment framed to suit such forms of disease; hence it is that we very commonly see local depletion from the epigastrium, and aperient medicines injurious to many affections of the stomach, which we should have supposed, from the symptoms which they exhibited, would have been benefited by such remedies. It is because these symptoms depend upon some other cause, and not upon hyperemia, or inflammation, that these remedies are not successful; and yet it is difficult, nay, sometimes impossible, to distinguish between vascular irritations of the stomach, and other affections of this organ, the results of treatment being occasionally our only guides."

Quotations of this kind might be multiplied far beyond the space I can afford, and indeed must be so familiar to those conversant with medical literature that anything beyond a general allusion to them may seem superfluous. I shall, therefore, add only one more, taken from the very excellent and practical Report on the Epidemic Dysentery of the North of Ireland, which was published in this Journal by Dr. Malcolm, in the Number for August, 1853. In that Report it will be seen, that, while the necessity for this therapeutic test is rationally and strongly insisted on, yet, in the attempt to discriminate the irritative and catarrhal dysentery from that which is purely

[a] Page 299.

inflammatory, it is in some degree open to the remark I have made, in considering these cases generally, that the distinctions are, for the most part, too fine, for while any one or two of the distinctive symptoms may exist alone in any particular case, it is only the assemblage of a number of them that can form a basis on which we can rely with confidence in our treatment. Indeed, this admission is made in the observations with which it concludes, for a caution is very wisely enforced against adopting measures of too decided a character, even when the probable existence of a certain pathological state is pretty clearly made out during the progress of the disease. I do not, however, by these or any other remarks, wish to deprecate any rational attempt at these distinctions; they are not only essential to the scientific treatment of disease, but they must precede every plan of treatment. Disease can only be treated properly by a reference to the conditions that are present, and these again can only be made out in the first instance from the symptoms. A dash into treatment, therefore, without the fullest consideration of them, would be the merest empiricism. I only mean to draw attention to the fact, that, from a singular law in the system, very opposite states will exhibit themselves in certain organs merely by an interruption or derangement of function, and, therefore, present the same symptom. This fact explains why the symptoms become, in many cases, such uncertain guides, and why the final appeal in such circumstances must be to the effect of treatment. The passage in the Report is as follows:—

"It appears that while a considerable variety of forms obtained in this epidemic, the prevailing one was decidedly the inflammatory. This is, we think, deducible, not merely from the opinions of the reporters, but also from the comparatively superior efficacy of the antiphlogistic plan of treatment; hence the value of early discrimination of this form. It is quite true that the opium system, or a few doses of opium with mercury, or even a completely expectant mode of management, had its quota of recoveries. Such facts show that dysentery may be merely catarrhal, or the result of purely accidental irritation; but in a given case, should this plan fail, there cannot be a doubt that we should be prepared for meeting with promptitude a serious and extensive inflammatory lesion—always, of course, excepting those rare adynamic forms dependent, chiefly, upon the agency of an animal poison. Now, the nice point is, how are we to discriminate the presence of this inflammatory form sufficiently early? In many cases, no doubt, there will be little difficulty—the pyrexia being marked, and the local

symptoms prominent. But it is not always so: treacherous cases are not unfrequent which deceive even the most experienced. It is important, then, to have some resource to which we may have recourse in such a perplexity; and, fortunately, we may rely in a great measure upon the effects of remedies. If these be inefficient in cases seemingly of the mild forms, or give not satisfactory results within a very short period, let us at once look upon the case as one tending to present the higher grades of the inflammatory process, and act accordingly. Of course, while suggesting this counsel, we do not for a moment wish it to be understood that the antiphlogistic treatment is to be at once adopted in its entirety and purity,—such would be irrational,—but merely that it is to form the guiding idea in our management, permitting of such modifications as the particular circumstances of individual cases will always indicate. Besides this therapeutic test, we have every reason to believe that a closer examination of the patient than what is usually adopted may furnish sufficient data for early diagnosis of the existence of inflammation, more especially the examination of the abdomen by *palpation*, the changing of the tongue just at the lip and edges, the creeping up and alteration of force in the pulse, the temperature, the state of the urine, and the appearance and persistence of tenacious and coloured discharge (like pneumonic sputa)."

Perhaps one of the reasons why this appeal to treatment is less insisted on as a principle in medical writings is, that such a mode of practice has on the face of it rather an empirical appearance. The trial of one mode of treatment, because another has failed, must often appear but the merest experiment, and few people are willing to confess that their practice is often experimental; this, however, is not a correct idea of the practice. We try one mode of treatment, not, simply, because another has failed, but because in failing it revealed the existence of conditions, which, if we had been aware of their presence at the outset, would have rendered our treatment from the first what we are now making it. Another reason is this: some physicians are gifted naturally with a singular tact in discriminating the real conditions of disease;—it is a faculty, indeed, of the highest value in practice,—one which all who possess it in any considerable degree feel a very excusable pride in exercising and exhibiting:—therefore, a mode of practice which seems to ignore this fine faculty, and would be represented as appealing to experiment, as it were, in preference to it, can never be popular. Nevertheless, it must be remembered, that the exercise of this talent is itself far from

being free from the danger of serious and irretrievable error, and that the mode I speak of, though it may occasionally involve what seems an appeal to experiment, is, for the most part, as I have said, a mere adaptation of the treatment to conditions newly disclosed, the existence of which we had before no positive evidence of, and which were only revealed by the result of the previous treatment. Moreover, its value is principally perceived on those occasions in which all our previous means of discrimination, of whatever kind, have been exhausted.

The cases in which it is applicable are numerous, and have a considerable variety of character, but I shall confine the present paper rather to an illustration of the subject by a few examples selected from different classes, than by a more ample and perhaps tedious detail. It will be seen that, in certain circumstances, it is by it alone we can obtain reliable evidence whether an existing inflammation is acute or chronic, whether typhoid symptoms are dependent upon direct debility or upon an attack of inflammation of an intense character—whether symptoms of chronic inflammation depend upon the actual existence of that state or mere functional derangement, as well as several other important conclusions. In reasoning on the subject, however, considerable caution is necessary. All the points in the history of each case must be weighed exactly, and a due degree of importance attached to them, and no more.

And this is the proper place to remark, that by the past treatment I mean any treatment that may have existed, or no medical treatment at all,—for it is an important fact that in some circumstances a merely expectant treatment may be of a very positive character as regards the existing disease: as, for instance, in cases of obscure inflammation associated with symptoms of debility, of which an example will be given; and some others also, of which there is a considerable variety.

Case I.—*Bronchitis accompanying Hooping-Cough.*—G. G., a healthy boy, aged fifteen months, after spending some months at the sea-side, and returning remarkably vigorous and robust, was seized with hooping-cough. The disease exhibited itself as hooping-cough often does at its outset, as a severe cold affecting the chest and air-passages. In this state, the cough being very moderate, he was taken out to drive on an unfavourable day, under the idea that the air would do him good. In a day or two, being worse, he was put under active treatment, was smartly purged and blistered, and took nitre and tartar emetic in large doses, which from time to time vomited him, and with apparent relief to the symptoms. The disease, how-

ever, went on insidiously—the fits of coughing were never severe nor violent; the attending fever was not very acute, nor the skin hot, and there was but little thirst, but the breathing by degrees became hurried, and though the blisters were repeated on different parts of the chest and back, and the other treatment persevered in, the bronchial affection became aggravated by degrees until at length it reached a condition that was quite alarming. About the end of the second week his state was as follows: face rather flushed, skin somewhat hot and moist; pulse 130, and small; much dyspnœa; breathing irregular, about 50 in a minute; humid rales all over the chest, but no dulness; expectoration abundant, but difficult, and of frothy mucus, the difficulty of breathing being aggravated when the fits of hooping came on, which, however, were neither frequent nor well marked. A consultation being held, it was a question whether the attack was still acute or had assumed a chronic form, and what degree of depletion, if any, the child would bear. He had been kept upon mild drinks—milk and water, and farinaceous food, of which indeed he took but little from the commencement, and, as almost the only thing which had been omitted was bleeding, it was determined to apply a small number of leeches to the chest, and watch the effect. Three leeches were applied, which bled very freely. There was immense prostration; the child grew pale; the pulse very feeble at 150; the breathing about 70 in a minute, the dyspnœa urgent; and the rattles in his chest almost suffocating. In point of fact he was in every respect vastly worse. We immediately gave him a small quantity of fowl broth every third hour, and a little wine alternately with it. Twelve hours after this plan was begun, the improvement was so decided and remarkable that it was surprising to witness it, and in the course of the next day he seemed placed almost in a state of safety. The shock of the disease was such, however, that though the improvement was uninterrupted, the process of reparation went on but slowly, and he retained a certain degree of delicacy for a considerable time afterwards. The mother of the child very naturally attributed the amendment to the leeches, but it was evident their application served but as a kind of *experimentum crucis*, revealing the real pathological state, and thus conveying a valuable indication.

It may be questioned whether the inflammation in this instance might not have been prevented from assuming a chronic character if depletion had been used in the commencement. From a circumstance which took place afterwards, I think this is at least doubtful. The same child, at eight years

of age, during an attack of measles of a mild type, was suddenly seized with laryngitis, from the extension of an inflammatory sore throat that attended the eruptive disease. I had been in his room a short time previously. He seemed to be going on well, but I was not many minutes down stairs when a fit of coughing seized him, and I heard the peculiar deep sound of laryngitis ringing through the house. When I ran up stairs again, I found a good deal of dyspnœa accompanying it. Eight leeches were immediately applied, which bled freely, and he was put upon frequent doses of calomel and James' powder, and blistered. The laryngeal affection subsided, but was followed in two or three hours by a good deal of prostration, and such an immense effusion of frothy mucus in the trachea and larger bronchial tubes, that I thought he would be suffocated. This recalled to my recollection the increase of the bronchial affection and the aggravation of all the symptoms which followed the leeching on a former occasion. The effusion disappeared by degrees under a mild supporting regimen, but it is probable an emetic or a blister alone without the leeching would in this instance have been a more appropriate remedy.

Case II.—*Pneumonia with typhoid symptoms.*—W. C., aged 19, an attorney's clerk, occasionally intemperate, six days ill; skin cool, but dry; tongue loaded, brown and dry; countenance heavy; pulse 144, undulating, feeble, and intermittent; no petechiæ nor maculation of any kind; delirious and constantly muttering in his sleep, but when distinctly questioned answers rationally. Much thirst; some cough and short breathing, which last, however, is hardly more than proportioned to the rapidity of the circulation. Sputa muco-purulent and rust-coloured, but latterly less dark; left side dull over its whole extent, with some moist sounds, but no vesicular murmur. Right side dull at its lower third, with slight moist crepitation, and absence of the vesicular murmur. No treatment had been adopted, but he had plenty of gruel and whey.

Here was a case of a very alarming character. It was obvious an intense inflammation was present, but what was the true and entire pathological condition? Was the debility direct or indirect? Was it a case of typhus fever complicated with pneumonia? Or was it one of pure inflammation running its course without let or hindrance, and by its vehemence paralyzing the circulation, destroying the functions of the lungs, and, through them, those of the brain and other organs? The question was one of great practical importance, because, though depletion seemed essential in the circumstances, it was certain that any considerable amount of it would be borne badly if the

case should turn out one of pure typhus fever, and the state of the circulation was already very alarming. I know of no cases indeed in which the sense of responsibility descends with so much force upon the mind as in these. The circumstances call for a decision on the question, and, unlike those of a chronic character, this decision must be prompt and even immediate, or the time will pass when it can be of any service. An expectant treatment has been tried and results in the symptoms I have detailed. Moreover, when our decision is made, the measures must, in one case, be somewhat of a heroic kind, for any other will tell neither way and give no indication, yet the evidence as to whether the debility is direct, or the result of an intense inflammation is, to say the least, doubtful, and an error of opinion either way may be fatal. On reverting to the result of the past treatment as a guide, I reflected that, though it was merely expectant, yet it *had* a character. It was sufficiently supporting to prevent so alarming a degree of debility occurring in a simple fever of only six days' duration, while it was quite sufficient to feed an intense inflammation, and could not, in this respect, be considered at all strictly antiphlogistic. I therefore determined to assume that the pathological state was one of inflammation, though in some points expressed in terms of a typhoid character, and to act accordingly, to watch the effect, and press the treatment or desist according to circumstances. Eight good leeches were first applied to the left side, and a blister over the chest. He was put upon calomel and hydrargyrum cum creta, with small doses of Dover's and James' powders every third hour, and had a diaphoretic mixture of solution of acetate of ammonia with each powder. The following is the note in my case-book next morning:—

"The leeches continued bleeding all night, and are bleeding still. The cough is much less distressing, and the oppression abated; pulse substantial and regular at 124; tongue cleaner, and his general aspect is better. His bowels have been freely moved; discharge rather natural, but fetid. Kidneys act well; water depositing a copious sediment. Pergat.

"Sunday, 23rd.—He seems worse this morning: pulse 136, and very feeble; cough and dyspnœa not worse, but there is constant delirium. On inquiry I find he has had no gruel, and nothing but whey since my visit of yesterday. Continue the medicine and give two ounces of gruel every two hours, and whey *ad libitum*.

"Monday, Jan. 24th.—Much improved; cough easy and dyspnœa less; pulse steady at 118, and general appearance

good; skin soft and cool; bowels well moved; discharges still fetid."

The notes taken on the 23rd and 24th show how near this case was to the point of direct debility when depletion could be no longer borne. They also show the necessity of watching patients in this state lest their strength may run down for want of the due administration of their ordinary support. The late Dr. Graves, in his Clinical Lectures, makes some important remarks on the necessity of attention to diet in cases of fever, an attention that would be well bestowed in other cases also. Dr. Stokes makes a very interesting allusion to this trait of this late eminent physician in his discourse on his life and writings, read before the Association of the King and Queen's College of Physicians in Ireland on a late occasion.

In the further progress of this case, the symptoms declined by degrees; the respiration improved in both lungs, but more decidedly in the right; a considerable portion of the left, however, went through the suppurative stage. He had constant copious expectoration of purulent matter for many weeks; hectic fever; profuse night perspirations; great prostration of strength; and considerable emaciation. If the stethoscope still needed any testimony in its favour, I do not know when I met a case that proved its value more decidedly than this. It had every appearance of confirmed consumption, and by the symptoms alone, apart from any physical examination, could not in any way be distinguished from it; even a reference to its history and origin could not have been sufficient; but the stethoscope pointed out distinctly where the mischief lay, and showed the rest of the lungs, as the case advanced, so free from disease, that it could not be doubted these severe symptoms were the result of the third stage of inflammation. The young man made a perfect recovery, and is now at his usual occupation, in the enjoyment of excellent health.

Case III.—*Functional Derangement simulating Chronic Gastritis.*—A lady, about thirty-seven years of age, a *religieuse*, and unmarried, was attacked with the usual symptoms of chronic gastritis in a mild form, but attended with the most overwhelming sense of despondency. Nothing could persuade her the attack would not end in dissolution. She had tenderness on pressure of the epigastrium, with occasional pain; the tongue was clean and small, but of rather a red colour; the bowels open, the discharges being yellowish and rather thin. There was a total loss of appetite, and but little desire for drink. She was leeched and blistered more than once, and under the use of

hydrargyrum cum cretâ and Dover's powder in small doses, with a mixture of infusion of cascarilla with hydrocyanic acid, sulphate and carbonate of magnesia, seemed to improve for a time. She was soon afterwards seized with vomiting, which nothing could allay, the fluid thrown up being acid. She got some mixture of chalk with hydrocyanic acid, with some relief again. This was succeeded by a diarrhœa, the discharges being thin, of the same colour as before, small in quantity, but hot, sharp, and irritating, and producing much tenesmus. The chalk mixture was persevered in, and the stomach again blistered, but with very little effect: indeed she appeared all the worse for it. The diarrhœa, in spite of opiates added to the mixture, went on, and the vomiting became so incessant that not even a teaspoonful of anything solid or liquid could be borne for a moment. Her despondency still continued, but she began to be reconciled to a result which she had considered from the first inevitable. Various means were used to control the symptoms, but without effect. After a day or two more she began, from pure exhaustion and want of nutrition, to show typhoid symptoms; the tongue became dark and dry, the pulse small at 130; there was some tendency to delirium, and I was apprehensive myself at last that her worst fears would be realized. I mention these particulars to show to what serious results, even in a very ordinary case, a want of sufficient attention to a single symptom, and that probably a mere effect of the diseased action, will lead. The acidity of the matter ejected from the stomach had continued from the first, and became now more intense than ever. I had been sensible of the importance of this symptom, and from past experience felt the necessity of correcting it, but imagined the antacids and absorbents already prescribed were sufficient for the purpose. It was clear, however, that unless some more effectual means were applied with that aim, the case would be lost. A draught was therefore ordered of fifteen grains of carbonate of soda with one-twelfth of a grain of acetate of morphia, and three drops of hydrocyanic acid, to be taken three times a day. It was surprising how completely this arrested the morbid action, and removed all the distressing symptoms. The diarrhœa, vomiting, and general irritability, all ceased within a day. She was soon able to take some food, and recovered completely and perfectly, without any change in the treatment except lengthening the interval between the doses of the alkali as the improvement went on. From the rapidity of her amendment, it was evident the affection was a merely functional one, and I have very little doubt that if the same had been prescribed at a sufficiently early pe-

riod, there would have been no necessity for either bleeding or blistering.

Some cases of chronic inflammation of the eye resemble those of the acute form so completely that it is wholly impossible to distinguish them except by the effect of treatment. In this, as in other cases of diseased action, I have seen practitioners of eminence try to decide between the two states by the character of the pain or its absence, by the presence or absence of heat and throbbing, the tears being hot or cold, and other particulars; but I am satisfied, from numerous cases that have fallen under my observation, that, whatever may be the result generally, there are several instances in which this cannot by any such means be done. Many of these, indeed most of them, are acute at first, bear depletion very well, and are much benefited by it, but, as time wears on, we find that a perseverance in the same means does not effect a cure, nay, that they are rendered stationary, or even made worse by it, and it is only on the repeated application of such means, and their being pressed to an extreme when they do not succeed at first, that we see they are ineffectual for the end proposed. Cases are met with from time to time that bear out these observations in various degrees. The following is one of the most pointed that has occurred to me.

Case IV.—*Chronic Conjunctivitis.*—E. S., a stout young woman, about twenty-five years of age, and in good health, was admitted into the county of Limerick Infirmary, with ophthalmia of both eyes, the left being the worst. She had been ailing about three weeks, but employed hardly any remedies except some aperients and fomentations. She was bled and leeched freely, purged and blistered, and with considerable benefit, for a time; she then had a relapse, supposed to be from cold; the same means were repeated and renewed, and again with benefit, when another aggravation occurred. After this had taken place three or four times, the state of the eyes became worse than ever, and I began to suspect these repeated relapses were not wholly due to the cause assigned. All local applications were merely palliative; the inflammation seemed now extremely intense; there was great heat in the brows, headach, throbbing, and much intolerance of light; the conjunctiva was deeply bloodshot, and the tears hot and burning; there was, however, no chemosis, and no destructive process was going on; nor was there either in the girl's constitution, nor the aspect of the case generally, any sign of a strumous diathesis. On going over the history of the case with some pupils of the hospital who were present, I directed their

attention to the degree to which the antiphlogistic treatment had been repeatedly pushed, and its evident incompetency to effect a cure; and I felt so confident in my idea of the nature of the difficulty from this fact, that I ventured to predict that, severe as the symptoms now were, they would disappear under a more generous diet; I therefore ordered her meat and porter each day at dinner. The result was as I anticipated; the severity of the symptoms immediately abated, and she got perfectly well in a short time without any further interruption.

Inflammations of the eye have a peculiar interest for the pathologist, because the conditions of the inflammatory process, which in other organs are a good deal a matter of inference, are here rendered open to ocular inspection: but if this be true as regards inflammatory affections of the external parts of the organ, the interest is considerably enhanced when we turn to the same affections of its internal cavities, especially those parts of them which are most accessible, such as the iris, the posterior and anterior chambers, and the fine membrane by which they are lined. We have here, indeed, a type, or rather a beautiful miniature, of serous cavities in general, the same in structure, and subject to the same affections, the same laws, and the same results; and, when its parts become inflamed, we see without more ado the various stages of inflammation pass, as it were, in review before us,—the congestion, the capillaries carrying red blood, the effusion of purulent matter, or of turbid fluid, and coagulating lymph; the whole process, in fact, which in other serous cavities—such as those of the pericardium, the pleura, or the peritoneum—are only eliminated by a careful analysis of symptoms, and an anxious exercise and exaltation both of the intellect and the other senses: moreover, when remedies are applied, we very soon see whether they are beneficial or detrimental, and that by a mode beyond dispute; and the interest of the subject is still further augmented by the consideration that if any useful conclusions are deduced, they must be, from the laws of physiology, of very general, if not universal, application in similar structures.

These observations will explain why I attach more importance to such cases as I have given, and the effect of treatment upon them, than at a first glance they would seem to merit. It is true that acute and chronic inflammations often resemble each other very closely, while they require different modes of treatment; and it is also true that in several instances the distinction between them can be made by the effect of treatment alone. In all this there is nothing new; nothing that has not been discovered by every one who has been long in practice;

therefore, what I wish to insist on is not so much the facts themselves, though they are valuable, as the very general application of the conclusions which may be drawn from them. If it be true that certain inflammatory affections of the conjunctiva of the eye, or of the bronchio-pulmonary mucous membrane, are capable in some circumstances of being greatly benefited by an improved diet, the same will be true, also, though with some reservations, of similar affections of the mucous membrane of the stomach, of the whole tract of the alimentary canal, and of other mucous surfaces. Cases might be cited in proof of the correctness of this conclusion, but I conceive it is unnecessary: it receives a strong confirmation from the experience of many able physicians, among whom I may mention the late Dr. Graves, who says[a], "that in chronic dysentery, meat is far too much refrained from; and that many cases which obstinately resist the most varied remedies, assiduously employed, get well rapidly after a liberal allowance of meat is given to them." To the truth of this assertion Dr. Mayne also bears ample testimony in an interesting article on chronic dysentery, published in the Dublin Journal of Medical Science for November, 1850, "having often," as he says, "succeeded in this way after the failure of all other measures."

I have said, "with some reservations," for there is one important point to attend to in the application of this principle to diseases of certain organs. The advantage gained by an improved diet in chronic cases operates probably indirectly through the medium of the blood; and as the mucous membrane of the stomach and intestinal tube is itself intimately concerned in the process of assimilation, care should be taken not to administer nourishment in an unsuitable form. It must be as easy of assimilation, tender, and digestible as its nature will admit of, otherwise it will only add to the embarrassment already existing.

Having spoken of the mucous surfaces, I am anxious, even at the risk of being thought tedious, to illustrate certain affections of the serous cavities, usually originating in inflammation, by a reference to some interesting cases already alluded to; I mean cases of iritis. Many of these, even when not of a specific character, are certainly capable of being affected by specific remedies; and whether affections of the serous cavities in general are so or not, is, I think, a very interesting point for investigation. The embarrassment arising in affections of the internal parts of the eye resembles very much what has been

[a] Clinical Lectures, edited by Neligan, vol. ii. p. 138.

already described as occurring in other tissues. They improve in the early stages under bleeding, general and local, and mercurialization; a relapse or two occurs, and they improve again; afterwards they remain stationary for a time, or fall off, and then the more these remedies are pressed the worse they get, until it is certain that a perseverance in them would operate to the total destruction of vision. It is at this point that, if the former treatment have not been pushed to a ruinous extent, I find the most singular and decisive effect from the use of oil of turpentine in doses of twenty or five-and-twenty drops three or four times a day. Its wonderful action on the absorbents will be best understood by citing a remarkable example.

Case V.—*Iritis.*—H. M., a healthy young man, about twenty years of age, was admitted into the county of Limerick Infirmary for an attack of iritis. I could not discover that he ever had a venereal complaint. The iris was changed in colour from its natural gray to a greenish cast; there were several little buttons of lymph on its surface; some enlarged vessels carrying red blood were also visible, and it was almost immovable; the pupil was dull, the vision greatly impaired, and the usual characteristic zone of red vessels surrounded the cornea. He had been under my care before he came into hospital, and entered it at my request, as the treatment could not be efficiently carried out in the uncomfortable lodgings in which he was placed. He was bled and leeched repeatedly, and got under the influence of mercury, and with very considerable advantage for a time. After two or three relapses such as I have described, when the same treatment was renewed it was found ineffectual. As his health and strength seemed good, the antiphlogistic plan was pressed further, but was soon followed by a considerably increased effusion of lymph, which at last filled the whole anterior chamber, and blocked up every point through which light could enter. The pupil, however, could still be dimly seen, but it was irregular and quite motionless. I do not know when I saw a more unpromising case. In fact, the boy was nearly blind, and as it was clear to himself, as indeed to every body else, that he was in a much better condition when he first came into hospital, he requested to be allowed to go home. Feeling how discreditable such an event would be in the circumstances, I earnestly pressed him to remain a little longer, partly under the pretext of getting his sore mouth well. To this he at last reluctantly consented. All the antiphlogistic measures were immediately suspended. He got a lotion for his mouth, and was ordered twenty drops of oil of

turpentine three times a day. It was a week before the effect of this change was distinctly perceptible, but when once he became sensible of it himself he was very willing to go on. Although the alteration was slow, it was steady and uninterrupted. The effused lymph was by degrees taken up; the pupil regained its roundness and clearness, and the iris its motion; the process of reparation took several weeks, but his sight was nearly restored to its usual sharpness on leaving the hospital. No further change of treatment was necessary from the time the turpentine was commenced.

I have preferred giving a single striking case of this kind in detail to entering into general expressions as to the efficacy of the remedy, because I observe that, though its efficiency in these and other such instances is admitted by those who have tried it, it yet seems to be looked on as a mere specific in certain cases, and its power as a general agent in controlling inflammatory action and removing its consequences seems to be a good deal lost sight of. The same was the case with calomel. Its energetic employment in the diseases of liver so common in India made it at first looked on as a specific in that complaint, and it was a long time before it was perceived that its success in such cases arose from a power it possessed to control inflammation generally after proper depletion. That the same idea of specific action should still prevail with regard to turpentine is curious, for we find cases recorded in the journals which show its success in inflammatory affections occurring in various structures and with several varieties of character, the prevailing one being that in which other means had failed. Those I have seen myself, though none of them were so remarkable as the one I have quoted, have been certainly sufficiently numerous to establish the conclusion I have been aiming at, that it acts on a general principle. It is not easy to explain what the conditions are that are most favourable to its success. If not inflammatory in their intimate nature they are certainly so in their origin. They are probably of a chronic character rather than acute, yet this is not their sole distinctive mark, for in the instance I have given there was no change of regimen nor any alteration save the employment of the turpentine instead of the means previously used. I can best describe them, perhaps, by stating that, according to my experience, the remedy does not succeed so well, or indeed, I think, at all, in the early stages of inflammation, but precisely in the later, where bleeding and mercurialization have entirely failed. Neither is it easy to explain its mode of action as some have attempted to do; it is sufficient on this point to say that all the explanations I have seen are quite in-

consistent with facts that have come under my own observation. I am so strongly persuaded, however, both of its efficacy and the general nature of its action, that I think it well worthy of a more extensive trial than it has yet received in several embarrassing cases of inflammation of serous membranes, and indeed of other tissues also,—the time most favourable to its action being, as I have said, when they are running into a chronic condition, and when depletion and mercury do not seem, after a fair trial, to have succeeded. What an invaluable addition it would be to our list of therapeutics if it was found capable of succeeding in certain unmanageable cases of chronic pleurisy, or still more, in those effusions of lymph and other structural changes that lead to alteration of the orifices, lesions of the valves, and other such ruinous results, in chronic cases of pericarditis and endocarditis[a].

In watching the effect of treatment as a guide to pathological conditions, we must be careful not to be led away too hastily from conclusions that appear rational, by any anomalous or unexpected results that arise during the application of the test. If our reasoning seems sound and good, and the anomaly is capable of being explained by a reference to other well-known pathological principles, we must persevere in our course, and devise some test applicable to the principle we have made use of to explain the exception. My meaning will be better understood by giving a case in point.

Case VI.—*Epileptic Fits during Pregnancy.*—A young lady newly married, and in her first pregnancy, became subject to fits, which were called "weaknesses" or "fainting fits," but which, on a more particular inquiry, I found to be of an epileptic character. They occurred about once in a month or six weeks at first, but towards the latter part of her pregnancy much oftener. They sometimes occurred when in bed, but more generally when she was in a stooping posture, and were very sudden in their access: when she came out of them her face was flushed and heavy, she breathed stertorously, and even when recovered spoke incoherently for a time. I saw her on one oc-

[a] Since the above was written I have met with the following passage in Watson's Lectures on the Principles and Practice of Physic, p. 286:—

"But when inflammation has stiffened the valves of the heart, or studded them with little wart-like masses of fibrine, how far do these morbid states admit of perfect recovery? It is not so easy to say. I am not aware of any facts which would forbid altogether the hope that here, as in iritis, the re-absorption or removal of the lymph may be total, and the restoration of the parts complete; on the contrary, *the comparative* infrequency of wart-like excrescences in the slowly fatal cases of rheumatic carditis leads to the opinion that such deposits may disappear as readily and entirely from the valves of the heart as from the iris."

casion directly after the fit. Her tongue was bitten severely, a result which had occurred in one or two instances before. Her pulse was, however, weak and languid, and on all these occasions beat from 70 to 75. When these fits first appeared, she tried many of the remedies usually prescribed in such cases, but every attempt to relieve her in this way was frustrated by the extreme irritability of her stomach, which rejected almost everything of the nature of medicine. As she had never been subject to these attacks before, I looked on them as associated with the pregnancy, and thought it likely from the stertor and other symptoms that they were accompanied or caused by local congestion in some part of the cerebro-spinal axis. To this opinion I was also led by her mode of life, which, though very regular, was well calculated to increase the plethora arising from her condition. She had a good appetite, lived well, dined late, and ate heartily. As her face was usually pale, the surface rather cold, and the pulse weak and languid, I had a great objection to resort to venesection without necessity; I therefore recommended her to take her principal meal in the middle of the day, to live rather sparingly, and avoid large quantities of liquids, continuing her usual exercise. As time wore on, however, when the attacks became more frequent I began to be apprehensive of puerperal convulsions, or some other dangerous consequence during her confinement, and advised a moderate bleeding from the arm, to which she consented. About sixteen ounces of blood were taken away. It was neither buffed nor cupped, produced no faintness, and she felt very comfortable and pleasant during the whole evening afterwards. That night, however, about 12 or 1 o'clock, she had far a more violent attack than she ever had before. Her tongue was wounded more severely; the stertorous breathing was deeper, louder, and more prolonged, and the incoherence that followed lasted much longer than usual. I was, I confess, surprised at this result, but as I could hardly persuade myself my reasoning was false as to the tendency of her regimen to produce plethora, local or general, I attributed it to some peculiar effect on her nervous system before the circulation had time fully to restore its balance, and I was far from being satisfied that it proved the non-existence of the state I had assumed. In this idea I was somewhat supported by remembering the well-known pathological fact, that a single general bleeding, unassisted by local depletion is seldom capable of reaching or controlling an active local inflammation. I determined, therefore, to test the matter further by reference to this principle, and ordered leeches behind her ears, which, after a second application of them, in four

or five days produced so decidedly beneficial an effect that all tendency to a recurrence of the fit entirely ceased. She passed through her confinement without a single bad symptom, nursed her infant, and has enjoyed very good health ever since.

I must here bring this paper to a close. If circumstances permit, I may perhaps at some future time offer some further illustrations of the important subject of which it treats.

Art. XIV.—*On Dislocation of the Metatarsal Bones downwards and backwards.* By Josiah Smyly, A.B., F.R.C.S.I., Surgeon to the Meath Hospital and County of Dublin Infirmary, &c.

In the last Number of this Journal Mr. Tufnell has called the attention of the profession to "a form of dislocation of the foot not previously described." He very properly says, "I would by no means infer that it is the only case that has occurred, for, happening under the agency of causes which must ever have existed equally as at present, we cannot but reasonably suppose that such accidents must have befallen individuals then as now, and that the want of a careful record by surgeons of their several experience has alone prevented this peculiar dislocation from being known."

Mr. Tufnell's case is certainly the first upon record of luxation of the metatarsus *downwards*. A case of this kind came under my care in the Meath Hospital eleven years ago, which I ought then to have made known, as upon investigating the subject I found the case to be "unique," the best authorities being ignorant of the existence of such a lesion, and some denying the possibility of its occurrence. It may be of use to bring forward my case even now, as a contribution to our stock of knowledge. No doubt many valuable facts are lost from want of diligence in collecting them, as well as from ignorance of their value. Mr. Tufnell has shown a good example—worthy of imitation.

William P., a young man, was admitted into the Meath Hospital on the 23rd of March, 1843, for an injury of the foot, which he sustained the day before. He was driving a cart, sitting in front, when, in making way for another vehicle to pass, the wheel got into the gripe of the ditch at the roadside, and the cart on which he sat was upset. He fell so that his right foot got between the shaft and the bank of the ditch. The shaft crushed the heel against the toes, which were fixed by the bank. The patient suffered severely at the time, and

was quite disabled. His foot was pulled immediately after the accident, but, getting no relief, he was sent to hospital. On admission, the foot was so swollen that the nature of the accident could not be ascertained; when, by leeching and appropriate means, the ecchymosis was dispersed, the form of the injury became manifest from the projection of the tarsus, the hollow immediately in front of it, with the corresponding projection in the sole, and the shortening of the foot. On the sixth day after the accident efforts were made, by means of pulleys, to reduce the dislocation, which, with perseverance, proved perfectly successful. A piece of wood, in the form of a sandal, made to fit the sole of the foot, having a heel-piece of leather with a strap to cross the instep, retained the bones in their places. On the 16th of April this man was dismissed, being sufficiently recovered to use the foot.

In this, as in Mr. Tufnell's example, the luxation was caused by a force acting between the heel and the toes, pressing the parts together. This case shows that there is no physical barrier to reduction in such dislocations, and that an attempt ought to be made before condemning such lesions as irremediable, and abandoning them to nature.

The most important difference between Mr. Tufnell's and my case is, that reduction was accomplished in the latter; this I attribute to the circumstance that in mine the whole range of metatarsal bones was dislocated, and thus there was a more extensive laceration of the ligaments; and, secondly, the extending power could be more efficiently applied than where only three bones were displaced—the two which remained *in situ* impeding and resisting extension.

Art. XV.—*Clinical Reports, and Observations on Medical Cases.*

By J. T. Banks, M.D., M.R.I.A., King's Professor of Physic; Physician to the Whitworth and Hardwicke Hospitals; Examiner in Medicine to the Queen's University in Ireland[a].

PNEUMOTHORAX WITH EFFUSION: RECOVERY.

James Smith, aged 30, a painter, was admitted into the Whitworth Hospital on the 29th of August, 1851. His father died of tubercular phthisis, at the age of 44, and a brother died

[a] Read before the Association of the King and Queen's College of Physicians in Ireland.

of the same disease in early youth: his mother is still living, and is in good health. Smith states that he has always been temperate, and of regular habits, and that he enjoyed excellent health until April last, when for the first time he became affected with cough, which he attributes to exposure to cold consequent upon the nature of his employment. He never had at any period hemoptysis. The cough was at first dry, afterterwards there was a frothy mucous expectoration, which subsequently became purulent. About two months before his application to be admitted into the hospital, in a violent paroxysm of coughing he felt as if something suddenly gave way in his chest, and at the same moment he heard a noise; his breathing instantly became short and extremely oppressed, and he suffered from pain of an agonizing character in the left side. He was constrained to sit upright at first, but he was soon able to lie on the affected side; an attempt to rest for a moment on the right side, or even on the back, gave rise to a feeling of impending suffocation. Cough, with abundant purulent expectoration, continued. Emaciation was progressive, and night sweats constant. He states that he felt his heart *suddenly* move from the left to the right side of the chest, and about the same time he could perceive a splashing sound on rapidly moving his body and also on turning in bed.

When received into hospital, he presented all the physical signs which characterize the presence of air and fluid in the pleura. The left side over a considerable extent was tympanitically resonant, the lower part of the same side being perfectly dull on percussion: the line of demarcation which marked the change was abrupt. Alteration of position had the effect of causing the tympanitic resonance and the dulness to change places. The respiratory murmur was absent over the whole extent of the left side. Bronchophony and bronchial respiration were audible at the root of the lung. Metallic tinkling and amphoric breathing were also present.

The Hippocratic succussion was to be heard not only on placing the ear on the chest and moving the body, but it was even audible at some distance from the patient's bed. He had acquired by practice the manner of shaking his chest so as to render the splashing sound exceedingly loud, so much so that a man at the opposite side of the ward declared that he could distinctly hear it. The side was dilated, and the intercostal spaces effaced. The impulse of the heart could be felt below the right mamma; the sounds were perfectly natural; the pulse was 84 in the morning, and 96 in the evening. The respiration of the right lung was puerile. He was emaciated, and there

existed distressing cough with purulent expectoration, chills towards evening, and perspiration confined to the upper part of the body. From the time of his admission he improved, with the exception of occasional intercurrent attacks of bronchitis of the right lung, when the habitual dyspnœa and the febrile symptoms were considerably aggravated.

It is needless to pursue the minute details of the case to the period of the patient's leaving the hospital in the month of June, 1852. It will be sufficient to state that long before his departure the signs of air and fluid in the cavity of the left pleura had ceased to exist. For a considerable time a small space at the summit of the chest continued tympanitically clear. Gradually the respiratory murmur, feeble and distant, however, was re-established; the cough and purulent expectoration ceased, the pulse came down almost to the standard of health; the breathing, though frequent, was no longer difficult, and he regained in a great measure his lost flesh. On leaving the hospital the heart had not returned to its place, and the whole extent of the left side was dull on percussion.

On being discharged from the hospital he resumed his ordinary mode of life, again engaging in the occupation of a painter. A year elapsed, according to his own statement, from the first change of position of the heart until its return to the left side of the chest.

I had from time to time opportunities of seeing the man after he passed from under my care, and last month he applied for advice at the Whitworth Hospital, complaining of the symptoms of slight bronchitis. I admitted him that I might carefully investigate his present state after so long a period from the occurrence of perforation of the pleura. He informs me that he has been able to work at his trade uninterruptedly since he left hospital. He has been and is able to walk well, and even to "trot," but when he runs rapidly his breathing becomes very short; he continues from habit to lie on the left side; though pale and rather delicate in appearance, he is in tolerably good condition. The eye can detect no difference between the right and left side of the chest; there is no curve of the spine; no depression of the shoulder, and the intercostal muscles of the left side move in respiration as those of the right. On measurement, it is found that the left side exceeds the right by half an inch. The percussion sound is comparatively dull both anteriorly and posteriorly on the left side; the respiratory murmur is audible everywhere on this side, but is much more feeble on this than on the other. The respiratory sound at the apex is perfectly natural, except that it is not so loud as that at

the summit of the right lung. The heart is now at the left of the sternum, but its apex beat is about an inch to the right of the point where it is felt in health.

The phenomena resulting from the presence of fluid and air in the cavity of the pleura have, from the most remote times, attracted much attention, but, nevertheless, little advance was made, until a comparatively recent date, towards a true appreciation of the causes and nature of the disease. Even the knowledge possessed by Bayle and Itard can only be considered as vague and unsatisfactory; and fruitful in results as were the labours of Laennec, much was left by him to be worked out by his followers, stimulated to further research by his great example. Louis, Andral, Stokes, Haughton, Saussier, and others, have, by their investigations, cleared away many obscurities, and rendered the history of pneumothorax complete.

The essay of Dr. H. M. Hughes on this subject is replete with instructive and highly suggestive matter; and he has recently added to the store of facts already accumulated by the publication, in Guy's Hospital Reports, of additional cases, some of which are confirmatory of views advocated in his original memoir.

Dr. Hughes has combated the doctrines of the French pathologists as to the rapidly and *necessarily* fatal consequences of the effusion of air and fluid into the pleura, and supports his opinions by accurately recorded cases. Louis has particularly dwelt on this point in the history of the disease. The duration of life, in his cases, varied from sixteen hours to thirty-six days; half of his patients did not live more than three days, and only one attained the maximum of thirty-six days. He admits, however, that the time intervening between the moment of perforation of the pleura and death may be much more protracted; and refers to a case observed in his ward in the Hotel-Dieu, in which eighteen months elapsed between the perforation and death; the notes of which were taken by Dr. Baron, Jun.; and to a no less remarkable case in the clinical wards of Chomel.

In Andral's cases the extreme limit was four months[a]. Saussier says, "La mort a eu lieu dans tout les cas où le pneumothorax était dû à une perforation tuberculeuse."

[a] That some of the most highly distinguished French physicians hold that pneumothorax, with effusion consequent upon tubercular perforation, is inevitably fatal, is proved by reference to their published opinions.

Valleix, in speaking of the prognosis in perforation of the pleura, thus disposes of the subject:—

"On a vu, en effet, que, dans les cas de perforation, la terminaison a toujours été fatale, et que ceux où l'on obtenu la guérison laissent, pour la plupart du mois, des doutes sur l'exactitude du diagnostic. Nous avons vu aussi que cel accident abrége généralement les jours des malades. Cependant, M. Hughes avance *qu'il est probable que*, dans beaucoup de cas de phthisie avancée le pneumothorax a plutôt prolongé qu'abrégé la vie des malades. Cette proposition me paraît avoir un caractère *evident d'exagération.*"

The experience of British physicians contrasts remarkably with that of our Continental brethren, for gloomy as are the records of the disease, we are not altogether precluded from reliance on the recuperative powers of nature, aided by appropriate treatment.

Dr. Haughton reports a case in which life was prolonged for a year and a half after the establishment of pneumothorax with effusion; and it is impossible to affirm, that the patient might not have permanently recovered, had he been placed in circumstances favourable to such a result.

In a case recorded by Dr. Barlow, there was an evident arrestment of the phthisis, and the patient lived for three years. Of the cases which Dr. Hughes has seen, or the histories of which he has examined, one lived twelve months, one thirteen months, and one three years; and in his recent paper in Guy's Hospital Reports, he states that he saw a case of Dr. Bird's, in which pneumothorax occurred on the 19th of November, 1844; and the subject of this lesion lived until the 24th of January, 1848.

I may refer to the case related by Laennec, in which pneumothorax lasted for six years, which may have resulted from a tubercular perforation, and not from an empyema opening into the lung, as supposed by those who cannot conceive the possibility of the prolongation of life under the former circumstances. Laennec, from his observations of the healing of tubercular cavities, admits the *possibility* of recovering after tubercular perforation.

The suspension of the phthisical symptoms on the invasion of pneumothorax, and the consequent prolongation of life in some cases, have not escaped the notice of Dr. Stokes and the late Dr. Haughton. In his singularly able treatise on pneumothorax, in the Cyclopædia of Practical Medicine, Dr. Haughton ventured to suggest the "possibility of recovery,"

and sustained the supposition by facts and arguments, derived from the observation of the case alluded to; but adds—"We by no means wish to inculcate it in a positive manner; before this can be done by any one, a more enlarged experience must be possessed; and the observer who is desirous of deciding the question by facts, has to set out with the melancholy knowledge, that not one case proved by auscultation to be of this nature is on record, in which ultimate recovery took place."

In his recent observations on the subject of pneumothorax, Dr. Hughes goes beyond the mere prolongation of life in cases of phthisis, in which pneumothorax supervenes—the statement which calls forth M. Valleix's criticism, for he says;—"I am still clearly of opinion, that in some cases of phthisis, the occurrence of pneumothorax has tended to the prolongation of life; and that sufficient evidence will, I trust, be found to exist in the case last related in the present paper, to show that pneumothorax is not only not necessarily unsusceptible of cure, but that it has been actually cured, even when associated with phthisis."

The case which I have detailed is highly important, as well calculated to strengthen our faith in the reparative powers of nature in a disease by many believed to be necessarily fatal. I have had no means of arriving at a knowledge of the actual state of my patient's lungs, antecedent to the perforation of the pleura, inasmuch as the event had taken place before I had an opportunity of examining him; but from the clear and satisfactory account he gives of his symptoms, and the general state of his health, as well as from the hereditary tendency to strumous disease, indicated by his father and brother having died of phthisis, I have no hesitation in coming to the conclusion, that the pneumothorax was secondary to tuberculosis of the left lung.

It appears to me that in this instance there has been an arrest of the morbid action, and from the perfect freedom from physical signs and general symptoms of phthisis, now at the expiration of nearly three years from the invasion of pneumothorax, I see no grounds for being sceptical as to the recovery being permanent.

Of the possibility of the event, there can be no question when we contemplate the proofs adduced by Dr. Hughes, of pneumothorax the consequence of tubercular perforation being susceptible of cure, positive demonstration being afforded in one case of the healing of the pleural aperture, although the supervention of tubercular disease in the opposite lung induced a fatal termination.

In the majority of the cases of perforation of the pleura, the subjects of the lesion have been conscious at the moment of something having given way in the chest, and have experienced acute pain, accompanied by inexpressible anxiety, and extreme difficulty of breathing: so it was with the man whose case I have reported. But, in addition, he heard a noise, which he says came from his chest. I do not mean to deny that there are instances in which the moment of the perforation is undistinguished by any very marked symptoms, but most assuredly these cases are purely exceptional. That the phenomenon to which I have alluded, viz., the crack or sound of the rending of the pleura, has not attracted much attention, I assume from the fact of the infrequency of any mention of it in the published cases of the disease. I only know of reference to it in two cases, one by Louis, and the other by Dr. Stokes. My friend, Dr. Henry Thompson, has lately favoured me with the facts of a case of pneumothorax of great interest in a twofold point of view. A man was admitted into the Omagh Infirmary, with unequivocal signs of tuberculous cavities in the right lung, the left being sound. While in the hospital he was suddenly seized with intense pain, and a sensation of something giving way in the right side, and at the same time he heard a noise, which was also audible to the nurse, who happened to be near. The sound was compared by both to the cracking of an unseasoned table. Dr. Thompson informs me that this man left the Omagh Infirmary, after a protracted residence there, free from all signs and symptoms of phthisis, and having regained flesh and strength. A year after his leaving the hospital, Dr. Thompson heard from him, when he was in good health, but being in a distant part of the south of Ireland, he has since lost sight of him. There can be no doubt of this case being an example of arrested phthisis.

Pathologists have sought to explain why in one case death so suddenly follows perforation of the pleura, while in others life may be prolonged to a comparatively remote period. Louis has not come to any satisfactory conclusion. The opening of the pleura being valvular, and admitting the air freely, while its exit is effectually prevented, appears to be the most reasonable explanation of the rapidly fatal cases, while, on the other hand, a free communication, which permits the air to escape from the cavity, favours the prolongation of life. This is the explanation which Dr. Stokes has given, and which, doubtless, is satisfactory as regards prolongation of life to a certain extent, but in those cases which may be said to have ended in recovery, we must admit that in addition, the tubercular disease is confined to one lung, and, also, that probably the affected lung is not ex-

tensively tuberculated. We know that a single tubercle, situated near the surface, may, by bursting, occasion the effusion of air, the lungs, with this exception, being free from all trace of disease. The case I have reported may, I apprehend, be looked upon as one of those presenting all the conditions necessary to give a fair chance of restoration to health.

A brief notice of the treatment employed in the case will suffice.

After the acute symptoms which supervened on the perforation of the pleura had passed away, I proceeded to treat the case as one of ordinary phthisis, administering the remedy which has been well termed "analeptic" in its action on the system, viz.,—cod-liver oil. For six months steadily and uninterruptedly he persisted in the use of the oil three times daily. His appetite was good throughout, and he never suffered in the least from his stomach rejecting or loathing the medicine. For some time he took syrup of the iodide of iron, in combination with the oil. During the whole course of the disease his diet was of a highly nutritious character.

It would be unjustifiable in me to occupy space by accumulating evidence as to the power of cod-liver oil in phthisis—the experience of every practical physician will supply more or less of materials corroborative of its efficacy.

For the introduction of the use of this medicinal agent in the treatment of phthisis pulmonalis into this country, and for his carefully conducted researches on the subject of the arrestment of this destructive malady through its means, the profession is largely indebted to Professor Bennet, of Edinburgh.

In concluding the sketch of this case, and the observations suggested by it, I would direct attention to a practical inference which may be drawn from considering the present state of the patient.

In the diagnosis of any disease affecting his left lung, how many difficulties would beset the physician who might happen to see him for the first time. Universal comparative percussion dulness of one side (caused, I believe, in part by abundant deposition of lymph on the pleura), and a feeble respiratory murmur, constitute a combination of signs eminently calculated to mislead and embarrass the most accomplished auscultator.

[After remaining for a few days in the hospital, on the occasion of his late trivial illness, the subject of this communication was enabled to resume his ordinary avocations, and is now in the enjoyment of his usual health.]

Art. XVI.—*On the Radical Cure of Hydrocele of the Tunica Vaginalis Testis, by Iodine Injections; to which is appended a Parallel between Hydrocele and the Diseases with which it may be confounded.* By Richard G. H. Butcher, Member of Council; Fellow and Licentiate of the Royal College of Surgeons in Ireland; Late Examiner on Anatomy, Physiology, and Pathology thereto; Surgeon to Mercer's Hospital, &c.

The radical cure of hydrocele of the tunica vaginalis testis is admitted by many practical surgeons to be most readily accomplished by iodine injections. The method was first prominently set before the profession by Velpeau in 1840[a], and from that time to the present his observations have been amply confirmed by the experience of others. Not only is the tincture of iodine capable of effecting a cure, when used in the first instance, but likewise its superiority has been proved in cases where every other method has failed. In England the attention of the profession was first awakened to the advantages accruing from this mode of practice, by a very excellent paper[b], from the pen of Mr. Martin, of London, who for many years resided in Calcutta, where the disease is acknowledged to be very prevalent. In this country I do not think the practice is as well known or as extensively employed as it ought to be. In very many instances I have adopted it myself, and uniformly with the happiest results. The surgeon may either employ the tincture of iodine pure or diluted with water, in the proportion of one part to three: the latter I prefer. The applicability of this mode of treatment to small hydroceles, probably, may be acceded to by all, while many will object to its use when the tumour is large; the object of this paper, however, is to show how safely and efficiently it may be employed, even when the sac contains pints of fluid, while the same small amount of the injection will answer in either case.

Case I.—*Hydrocele of the Tunica Vaginalis Testis of the left side, together with acute inflammation of the Right Testicle, the result of Gonorrhœa.*—M. C., a car-driver, aged thirty-nine years, was admitted into Mercer's Hospital, March 18th, 1851. From his statement I discovered that a hydrocele of the left tunica vaginalis testis had existed for twenty years. He

[a] Hydroceles de la Tunique Vaginale, Leçons Orales, vol. i. p. 262.
[b] Lancet, 1841–42.

could not account for its occurrence, but steadily declared no violence had ever been inflicted on the part; that it came on at first imperceptibly, and increased without pain or uneasiness of any kind, very slow in its progress, and stationary as to size for many years; that for some months previously to his application at the hospital, its increase was more rapid, and then he was compelled to seek advice, owing to the inconvenience arising from its bulk. If his statement was true, not the least remarkable features in the case were the perfect transparency of the tumour, and the thinness and delicacy of the sac. At the time when the patient presented himself at the hospital, in addition to the chronic disease, he was labouring under acute gonorrhœa, which had manifested itself by profuse discharge three weeks before; during all this time he was taking active exercise, while very severe inflammation of the organ was produced, and suddenly, as it were, the discharge nearly ceased, and the right testicle became swollen and acutely painful. In this condition the man was admitted into hospital, and the requisite means taken to subdue the local affection; emesis was produced by tartar emetic, and its prostrating effects perpetuated by nauseating doses of the drug; pillows were placed between the thighs, and the inflamed part enveloped in warm stupe-clothes supported upon them. The hydrocele was remarkable in its size and form, being far larger than that usually met with, and somewhat contracted in the centre,—hour-glass shaped; its weight was also very considerable; the size of the tumour is best expressed by the quantity of fluid drawn off, which amounted to eighteen ounces. The palliative treatment being put in practice, the tension of the integument over the inflamed testicle on the right side was relieved, while at the same time the part was rendered more accessible to local management. On examining the inflamed gland, the epididymis was greatly involved, and contributed largely to the bulk of the swelling. True it is, Ricord states that, in the majority of cases, it alone is the part engaged, but my experience on this point does not harmonize with the opinion of this illustrious surgeon.

March 21st. Inflammation reduced; testicle smeared over with mercurial ointment, the part to be supported as before, and covered with warm stupe-clothes. Ordered five grains of blue pill at night, and an anodyne to procure rest.

23rd. Fresh exacerbation of pain in the testicle, from the gland being more swollen and its tissues more tense and binding. Blood was removed from the veins of the scrotum, and an

emetic given; these, in combination with soothing applications to the gland in the form of medicated stupes, afforded relief.

26th. Swelling and pain all gone; yet some hardness still remains in the epididymis. Discharge continues as profuse from the urethra as ever; ordered a drachm of powdered cubebs and ten grains of nitrate of potash every third hour; stupes to the part; omit mercurial.

29th. All pain in the testicle gone; one hardened nodule of lymph still at the junction of the epididymis and testicle.

31st. The powders have been regularly taken since last report, and the discharge is nearly stopped. There has been no return of inflammation in the testicle; it remains free from all pain, and of its normal size and appearance, save in the one point already referred to. The patient felt so relieved from pressing symptoms, that on this day he left the hospital, though cautioned to remain until the complete cure of the gonorrhœal discharge was effected. On the 12th of April following, this patient returned to hospital, with a fresh accession of inflammation in the right testicle; the disease assumed the most acute form; the gland was enlarged to the size of a lemon; the integuments were red and strained over it, all rugæ of the scrotum obliterated. The patient stated that the discharge was continuous from the time of his leaving hospital to the present period of his readmission; that for a few days before the testicle swelled, the evil had almost disappeared, and he considered himself on the eve of being cured: however, after suffering intense pain in the chord for some hours, the testicle too became effected, burning heat settled in it, and a deep, heavy pain, not nearly so acute as in the parts already referred to: yet with the dull sensation in the gland was associated the peculiar sense of nausea and faintness which so strikingly accompanies inflammation of this organ. Coexisting with this very inflamed condition of the testicle was profuse discharge from the urethra, the clap having returned with renewed virulence; the hydrocele on the left side was larger than when the palliative treatment was had recourse to, nearly a month before. The sufferings of the man were so great I at once opened the veins of the scrotum, and procured a large quantity of blood from the part; this was followed up by an uninterrupted succession of warm stupe-clothes, together with the support of the organ; a brisk emetic was afterwards administered, and a calomel purge given at night.

13th. Pain has again returned in the testicle, though the

bulk and tension of the organ are obviously lessened. Ordered tartar emetic in nauseating doses, low diet, warm stupes, and support to the part.

15th. Continued the depressing treatment up to this morning, with manifestly good effect, the pain having nearly all subsided, and the bulk of the tumour greatly diminished. To continue tartar emetic mixture, &c., &c.

18th. The testicle and epididymis now bear handling without much pain, but considerable hardness remains in the latter; therefore I considered it advisable to introduce mercury into the system, and cause the absorption of the lymph matting the tubes of the epididymis together, threatening an interruption to their functions. Two grains of calomel and a quarter of a grain of opium were administered every third hour, while the testicle was smeared with mercurial ointment, and then covered with lint and oiled silk.

24th. The treatment reported on the 18th has been uninterruptedly continued up to the present date, and with admirable effect. The mercury acted legitimately, the gums being slightly touched. The testicle has become diminished in bulk, the epididymis softened, and the hardened nodule of lymph nearly removed, and, not only so, but the discharge from the urethra is completely cured. To continue one pill at night, and the inunction of the gland as before.

28th. On this date the entire swelling of the gland has been removed, but the head of the epididymis still retains an abnormal hardness. Omit mercurial internally.

On the 30th of the month, the testicle being restored to its normal state, free from inflammation, I decided on performing the radical cure of the hydrocele of the left tunica vaginalis, by injection with iodine. The strength of the injection was the following: one part of the tincture to three of water. The fluid from the tumour was drawn off in the usual way by a trocar and canula; through the latter a drachm and a half of the above mixture was thrown into the tunica vaginalis by means of a glass syringe, and suffered to remain: on withdrawing the canula and syringe, a few drops of the fluid made their escape. In a few minutes after the injection was thrown in, the patient complained of pain in the part, accompanied by faintness. The pain extended down the thigh, and as high as the crest of the ileum, but never to the loins. The pain was very acute, and did not subside for five hours after, though a large opiate had been administered.

May 1st. Since the injection, as usually occurs, rapid effu-

sion has taken place into the sac of the tunica vaginalis; the scrotum is likewise œdematous; the pain and sickness, so intolerant on yesterday, have entirely subsided. The part to be supported by a suspensory bandage.

3d. Swelling and pain less.

12th. Tumour gradually diminishing.

14th. Fluid in the tunica vaginalis greatly absorbed, and the bulk of the swelling remarkably lessened; scrotum quite natural, and flaccid.

22nd. All fluid nearly absorbed.

27th. Not the least tumour now, all fluid being absorbed, and both testicles healthy; and on the 2nd of June the patient was dismissed, perfectly cured.

The chief complication in this case of hydrocele which required surgical interference, before the radical cure could be attempted, was, the acutely inflamed condition of the testicle on the opposite side. The means which I employ, and which I have found most decisive in arresting acute testitis, were employed here, namely, first, opening the veins of the scrotum. If this operation be carefully done, a very large quantity of blood can be drawn in a few minutes. To insure a sufficient supply, the surgeon should be careful not to make too much pressure on the chord, lest the arterial supply should be stopped; at the same time, it should be sufficient to check the returning flow, and render the veins prominent. Again, in opening each vein, the operator should be cautious not to transfix the walls of the vessel; if so, the fine cellular tissue behind is projected into the vein, and plugs the opening. In order that the blood should flow freely, the anterior wall of the vein must alone be cut. If a few vessels be opened, with these precautions, a sufficient supply of blood will be readily afforded: even though the scrotum be œdematous, as is sometimes met with in these cases, yet, one or two vessels will almost invariably be found towards the raphe, by the opening of which, the neighbouring veins, though concealed, can be effectually emptied. I far prefer this method of detracting blood from the part, to the application of leeches: 1st. Because it can be put in practice more quickly; and, when secrecy is required, without leaving any trace behind. 2ndly. Erysipelas is not at all likely to occur. I have never seen it as a result; while, after the application of leeches, it frequently takes place. 3rdly. By the method which I advocate, the patient is saved from the irritation of the leech-bites, which keeps up a constant flow of blood to the part, producing absolutely the effect which the leeches were intended to remove. After the

veins were opened, blood was encouraged to flow by the constant application of warm stupe-clothes; a full emetic was next administered; aperient medicines given; and the action of the heart controlled by nauseating doses of tartar emetic; the advantages of position were not lost sight of; and, finally, mercury was exhibited, to arrest the further exudation of lymph, and cause the absorption of that already thrown out, both in the epididymis and testicle itself. This is a practice which I invariably have recourse to, namely, where nodules of lymph, or undue hardness remain in the testicle or epididymis, after acute inflammatory action, I at once administer mercury, with the very best effect, and the restoration of the parts to their normal state. It is most important, I conceive, to aim at this result, that the matting together and occlusion of the seminiferous tubes may be prevented, and the functions of the gland preserved, and that no nidus be left for the generation of future disease.

The most remarkable features of interest in this case are:—1st. The radical cure of the hydrocele by the stimulant injection of iodine, without exciting fresh inflammation in the testicle so recently cured; 2ndly. The cure of the urethral discharge under the influence of the mercury; and 3rdly. The absorption of the effused lymph deposited in the tissues of the gland, by the administration of the mineral.

The next case presented a tumour considerably larger than that now detailed, and was treated in a similar manner.

Case II.—J. R., aged 28, was admitted into Mercer's Hospital under my care, in the month of January, 1853, labouring under hydrocele of the tunica vaginalis testis. The patient stated that, three years before his admission, the swelling commenced, apparently without cause, as he was perfectly unconscious of having sustained any injury of the part; it gradually increased for two years and nine months, attaining such a size as to become troublesome from its bulk, interfering with his ordinary occupation, and permitting very imperfectly the act of coition. At this time the palliative treatment was had recourse to, and an amount of fluid drawn off, exceeding three pints and a half; in a few days after, the patient returned to the country.

In twelve weeks from the date of this operation, the patient came back to town, and, on the 16th of January, was received into hospital, the tumour being, if anything, larger than before. I admitted him with the determination to try the radical cure by iodine injection. The tumour, on examination, presented a large oval mass, implicating the ring. The skin over it was

smooth, tense, of the natural colour, and traversed by large veins. The two upper thirds of its extent were transparent, while the lower third was of a reddish hue, the result of œdema, consequent upon the exertions which the patient was compelled to make in walking. In feel it was elastic, fluctuating, uniformly tense, except at the back part, where it was hard in the site of the testicle. Its weight was less than that of a solid disease of the same dimensions. On handling it the sensations were not painful, except when pressure was made behind, corresponding to the position of the gland. The dragging on the chord in the erect posture constituted the summit of his sufferings. The penis lay embedded upon and lost in the upper part of the tumour, from the dragging of the integuments downwards.

January 17th. Having decided on trying the radical cure on this morning, I drew off the water, which was of a straw colour, and amounted in quantity to nearly four pints. The testicle being discovered perfectly healthy, I injected two drachms of the following mixture:—Tincture of iodine, three drachms; hydriodate of potash, one drachm; water, one ounce. The fluid was suffered to remain, and the canula withdrawn. In an hour and a half after the injection the iodine could be detected in the urine; it disappeared by degrees, and in forty hours after, no trace of it could be detected. After the injection I moved freely the fluid all round the surface of the sac, so as to bring it into contact with every part, and then ordered the patient to bed. Half an hour had scarcely elapsed when pain of a moderate degree commenced in the testicle, passing upwards along the chord. This continued for about two hours, but never produced sickness of the stomach, or any violent suffering.

3 P.M. Slight effusion into the tunica vaginalis, and also into the tissues of the scrotum; testicle tender to the touch.

January 18th. Has suffered no greater uneasiness than noticed on yesterday, yet the effusion into the tunica vaginalis and œdema of the scrotum are considerably increased. In addition to the tenderness and fulness of the testicle, the epididymis is likewise enlarged.

26th. All pain gone. Fluid absorbing but slowly, so drew it off again. Sac thickened, and testicle enlarged. No pain of any amount. Strapped the testicle, and administered five grains of blue pill night and morning.

February 6th. Since last report the testicle has been strapped on four or five occasions. The mouth now is slightly

touched by the mercury, and to the combination of both modes of treatment may be attributed the diminution of the swelling of the gland.

10th. Strapped the testicle to-day with a combination of ammoniacal and mercurial ointment, with soap cerate spread upon linen. There has been no tendency to the secretion of fluid into the tunica vaginalis.

15th. On this day the patient was dismissed from hospital, the parts being entirely restored to their normal state, and the hydrocele cured.

The only accessory called into requisition in the cure of this case, in addition to those used in the former, was the application of strapping the testicle. This is a mode of treatment which may be adopted even in acute cases of testitis, with the best results, after local depletion, in the way which I have pointed out. It is highly serviceable in cases that assume the chronic form, particularly when the patient is compelled, by the nature of his occupation, to move about. However, much of the benefit will depend upon the way in which the strapping is performed. In order that it should act beneficially, the pressure must be equal and considerable in amount. The testicle being drawn down, I first apply a piece of lint in a circular manner at the lower part of the chord; over this the first strap of soap plaster is wound—the object being to prevent the retraction of the testicle when pressure is applied to it. I interpose the lint, because I have frequently seen the upper edge of the plaster cut the integuments. No intervals should be left between the numerous straps afterwards put on, and if their pressure be exerted evenly, seldom, indeed, will the patient suffer any pain after their adjustment; and, I will further add, I have never seen their removal demanded, except when clumsily and imperfectly applied. For the purpose described, the soap cerate is spread upon linen, and cut into strips of about an inch wide; or a more stimulant application may be substituted, as above noticed.

The foregoing cases demanded a considerable time for their cure, owing to reasons assigned; but in the generality of cases treated by iodine injection, I have seldom seen it necessary to confine the patient to bed;—it is of all others the practice upon which most dependence can be relied for the radical cure of hydrocele.

To these remarks I shall append some Tables, showing the diseases with which hydrocele may be confounded, and the characteristic distinguishing features of each, so as to lead to greater accuracy in differential diagnosis.

DIFFERENCES BETWEEN HERNIA AND HYDROCELE.

HERNIA.	HYDROCELE.
Begins above.	Begins below.
Changeable in bulk.	Unchangeable.
Engages ring.	Ring free.
Feeling of weakness.	Feeling of weight.
Can often feel intestines, or omentum.	Can feel nothing.
Testicle at the bottom.	Testicle at back part.
Opaque: in child sometimes transparent.	Often transparent.
Base of tumour above.	Base of tumour below.
Flatulence, dyspepsia.	Bowels not deranged.

DIFFERENCES BETWEEN VARICOCELE AND HYDROCELE.

VARICOCELE.	HYDROCELE.
Soft, like earth-worms.	Tense, elastic.
Changeable, like hernia.	Unchangeable.
Ring dilated often.	Ring closed.
Testicle distinct.	Testicle indistinct.
Testicle wasted.	Enlarged, if distinguishable.
Tumour whole length of chord.	Tumour at bottom.
Tumour light.	Tumour heavy.

DIFFERENCES BETWEEN VENEREAL TESTICLE AND HYDROCELE.

VENEREAL TESTICLE.	HYDROCELE.
Both engaged generally.	One tunica vaginalis generally.
Tumour very heavy.	Tumour not so heavy.
Hard all over.	Hard only at back part.
Size moderate.	Often very large.
No fluctuation; sometimes small quantity of fluid.	Fluctuation.
Tumour slanting.	Tumour perpendicular.
Painful to handling.	Not painful.
Solid contents.	Fluid contents.
Eruption, or sore throat.	None such necessarily.

DIFFERENCES BETWEEN SCROFULOUS TESTICLE AND HYDROCELE.

SCROFULOUS TESTICLE.	HYDROCELE.
Round in form.	Oval in form.
Never very large.	Often very large.
Solid.	Fluctuating.
Heavy.	Light.
Lies at the bottom of the scrotum.	Grows upwards.
Inflames in spots.	Never so.
Suppurates, fungates.	Never suppurates.
Scrofula in other glands.	Not so.

DIFFERENCES BETWEEN FUNGUS HÆMATODES AND HYDROCELE.

FUNGUS HÆMATODES.	HYDROCELE.
Tumour irregularly hard and soft, hardness predominating in early stages.	Uniformly smooth.
Shape, globular generally.	Oval generally.
Rapid in growth.	Slow in formation.
Painful.	Free from pain.
Opaque.	Transparent.
Elastic.	Fluctuating.
Chord becomes hard and knobby.	Chord sound.
Pains up loins.	No such pains.
Health impaired.	Not so.
Fungates.	Never.

DIFFERENCES BETWEEN CANCER OF THE TESTICLE AND HYDROCELE.

CANCER OF THE TESTICLE.	HYDROCELE.
Hard, knobbed.	Soft, smooth.
Small.	Large.
Round.	Oval.
Painful on handling.	Not so.
No fluctuation.	Fluctuation.
Chord knobby.	Chord soft.
Adheres to scrotum.	Never.
Glands in groin enlarged.	Never engaged.
Shooting pains.	Never (in loins).
Fever peculiar.	No fever.
Fungates.	Never.
Death.	Never.

In hydro-sarcocele the testicle will be found hard, painful, irregular, large at the back part, with some fluctuation in front. Testicle distinguished in hydro-sarcocele, not so in hydrocele generally. Shooting pains on handling the former, not so in the latter. If obscure, the tumour may be tapped, and then the enlargement of the testis will be discovered, and the water small in proportion to the size of the tumour.

Art. XVII.—*Reports of Rare Cases observed in the Clinical Wards of the Whitworth and Hardwicke Hospitals.* By Samuel Gordon, M.B., F.R.C.S.I., M.R.I.A., Physician to the Hospitals.

(*Continued from* Vol. XV. p. 371.)

III.—*Empyema treated by extensive external incision; Recovery.*

Robert Brady, aged 36, a house-painter, was admitted into the Whitworth Hospital, December 20, 1853. Eight days previously he had rigors followed by irregular perspirations, acute pain in the left mammary region increased by deep inspiration, dry cough, and loss of sleep; these symptoms still continue; the inferior third of the left side of the chest is quite dull on percussion posteriorly, and there is no respiratory murmur audible in this situation.

The friction sound is audible over almost the entire left side of the chest anteriorly, and extends considerably across the mediastinum. It is of a very peculiar character; examining it attentively at the right of the sternum, it is distinctly audible with the motions of the heart, the to-and-fro sounds being heard with each impulse of the heart, and continuing while respiration is interrupted. On the left side it is audible with the action of the lung, being heard twice distinctly with each act of respiration; the respiratory murmur is puerile throughout the right lung, and very feeble at the apex of the left. The heart is displaced to the right side of the sternum; the intercostal muscles on the left side protruded, and the left ala of the diaphragm depressed; the patient lay altogether on the right side; he had considerable fever, pulse 120. Tongue covered with yellowish fur; respiration very hurried; great anxiety of countenance. Blood was taken by cupping from the left side, and he was ordered calomel and opium in frequently repeated doses. He suffered greatly from local pain over the heart, which was greatly relieved by frequent leeching, and in addition to a fourth of a grain of opium, taken with calomel; every two hours he required a large opiate each night to procure some sleep.

On the 24th, the calomel had affected the system, and from this time the pain completely left the region of the heart, and the friction sound gradually disappeared, the heart's sounds becoming daily more distinct. The mercurialization of the system, however, did not seem to have any effect in curing the disease of the pleura; the fluid gradually rose and compressed the lung still further; the extent of dulness increased; the *frotte-*

ment disappeared, and the respiration at the apex of the lung became bronchial. The type of the fever altered, and from inflammatory became hectic.

January 2, 1854, report as follows:—Complains greatly of debility; copious perspirations both by night and day; expectoration profuse, purulent, at least a quart in the day; the least exertion, even turning in the bed, brings on the cough, and the pus comes up in mouthfuls without much apparent effort; he lies altogether on the left side; pulse 132, very feeble. A loud muco-crepitating râle is audible near the spine of the scapula; slight bronchial respiration is audible still at the apex of the left lung, no respiration over the remainder of this lung, and perfect dulness on percussion. All the signs of displacement continue. He was now blistered repeatedly over the left side; he was ordered large doses of iodide of potassium, and a small quantity of wine.

On the 7th of January the dyspnœa was very urgent, the expectoration very profuse, he had coughed up a pint of purulent matter in five hours. On examining the side I found a puffy tumour about the size of a turkey's egg flattened, in the lateral region, corresponding to the ninth and tenth ribs; it had a deceptive feeling of fluctuation, and was very tender on pressure.

My colleague, Dr. M'Dowel, now saw the case with me, and finding that all therapeutic measures had failed, and that the dyspnœa was most urgent, we agreed on the propriety of making an incision into this tumour. I penetrated three inches in depth, but found no purulent matter. A great quantity of bloody serum exuded. I did not open the pleura because there did not appear to be any attempt at a pointing of the empyema at this situation; secondly, on account of the great depth of the pleura from the integument; and lastly, on account of the great irritability and impatience which the patient himself now expressed. I enlarged the wound, however, very considerably, and dressed it from the bottom, with the hope that the empyema would be thereby induced to point and discharge itself at this situation, treatment similar to that so well advised and frequently successful in cases of abscess of the liver. Beyond the usual amount of suppuration from the wound itself, no purulent matter ever came through this opening, yet I was most agreeably surprised to find that from this day the symptoms began gradually to amend, so quickly, however, after this interference, that it was obvious to all who witnessed the progress of the case, that the incision and the amelioration

of the symptoms must have stood in the relation of cause and effect.

The report of the 10th is:—Finds himself much better; can breathe with greater ease and freedom; expectoration much reduced; can turn or even sit up in the bed without coughing; perspirations continue; pulse 124; heart less to the right side than formerly; other physical signs unaltered.

The physical signs also did, however, soon begin to amend. The respiration at the apex of the lung became vesicular; the muco-crepitating rattle disappeared, and for several days the interesting phenomenon was well marked of the returning *frottement*, audible over a great portion of the left side of the chest, and the signs of excentric displacement disappeared.

He was discharged from hospital at his own request on the 28th of February, the cough and expectoration having ceased, and the hectic fever having subsided. He was very weak and emaciated; the left side of the chest was beginning to contract; its inferior part was still dull on percussion, and the respiratory murmur was but feeble.

On the 12th of March he had greatly recovered his strength; the perspirations had entirely subsided, and he only complained that he was still caught in the lower part of the left side by a deep inspiration.

March 31. He considers himself convalescent; has returned to his usual employment; complains only of slight fatigue at the end of the day. The left side of the chest is slightly contracted. There is still slight dulness and feeble respiration at the base of the left lung.

The nature of this case was evident from the commencement. It was clearly a case of pleuritis with effusion, combined with pericarditis. I do not think that this is a frequent combination, when attended, as in the present case, with high inflammatory fever. With the typhoid fevers, and cases of pyogenic diathesis, no combination can be more common. It has been stated that the occurrence of loud murmur in cases of displaced heart like the present is not unusual, and for a moment I thought such might be the case here, but the abnormal sound was at times peculiarly rough and rasping, not more audible towards or a little beyond the apex or base of the heart, but over its centre, and diminishing or almost lost towards these parts; its point of intensity so much to the right side showed, also, that the *frottement* was not owing to a pleuritis of the left border of the mediastinum, an affection sometimes not easy of diagnosis from pericarditis. The next

point of interest was the amount of displacement which had taken place very early in the disease. Before the left pleura was more than one-third full of fluid, the heart had gone considerably to the right of the sternum; the intercostal spaces had become convex outwards, and the left ala of the diaphragm had been depressed; each or all of these facts being sufficient to prove that these phenomena were not owing to mere mechanical pressure.

That the nature of the effusion was pus, and not serum, was, I think, sufficiently proved by the facts of—1st. The great amount of inflammation which existed, producing those displacements above mentioned, in so early a stage of the disease; 2ndly. The well-confirmed hectic fever which afterwards supervened; and lastly, by the great amount of *purulent matter* which was daily discharged from the bronchial tubes.

That this empyema was very large, I assumed not from the signs of excentric displacement alone, but from the great amount of pressure which both the symptoms and physical signs showed to be exercised on the left lung; the intensity of the dyspnœa, while there was no proof of disease in the right lung; the degree of hectic which existed, and the enormous amount of purulent expectoration. I would not go so far as Dr. Wood, who states, that large collections of pus in the pleural cavity are seldom, if ever, absorbed[a]; but I think their absorption sufficiently rare to render such a case worthy of publication.

I need scarcely refer to the supposition that a communication might have been established between the lung and pleura, and the purulent matter so discharged through a bronchial tube. Such a circumstance I believe to be of exceeding rarity, more so even than the absorption of a large empyema; but such an occurrence could not have taken place without some signs of a pneumothorax, which never existed. But there were other physical signs of an exceedingly interesting nature present, and which I referred to above, namely, the bronchial respiration at the apex of the left lung, and the muco-crepitating râle near the spine of the scapula. These physical signs I had more than once known to be considered as indicative of phthisis, and the nature of the case completely mistaken by reason of their existence; but, recollecting the observations made by the late Professor Greene on this subject[b], from cases, all of which I had myself witnessed, I had no hesitation in stating

[a] Practice of Medicine, vol. x. p. 44.

[b] See vol. xvii. of the former Series of this Journal.

that they were owing to the compression of the lung, and the large collection of purulent matter which lay in the bronchial tubes; these tubes being in great number compressed into a very small space near the root of the lung, the sounds assimilated those which would be produced in an anfractuous cavity. And, lastly, to speak of the incision made, I confess I endeavoured at first to imagine that there was not any connexion between it and the subsequent process of absorption; but the one was so speedily followed by the other, that it was obvious to all who witnessed the case that, as I said before, the wound and the amelioration of the symptoms must have stood to each other in the relation of cause and effect; and such is also the opinion of Dr. M'Dowel, who saw the case with me on more than one occasion. Hodgkin, in recommending the operation for empyema to be performed by the cautery rather than by the knife, says a strong external irritation is one of the most powerful means of promoting the removal of the fluid by absorption. Whilst, then, we are preparing a way of escape for the effusion, we are at the same time giving to nature the best chance of removing it herself, and we may, perhaps, fortunately find that before an opening is effected, she has so well performed her part that the plan may be changed. Such I suppose to have been the mode of action in the present case, in which a very extensive and deep incision proved to be a strong external irritation, exciting the absorbents to more powerful action.

IV.—*Pleuritis with Effusion: Absorption: Occurrence of Pneumothorax during process of Contraction of Side.*

On the 7th of May, 1850, I saw a young woman of about 32 years of age. She had been for some time under treatment for a supposed affection of the stomach, but her case was clearly one of pleuritis with effusion of the left side, and it was of about three months' duration. All the phenomena of excentric displacement were present; also there was dulness over the entire left side of the chest, and over the anterior mediastinum, and no respiratory murmur was audible except at the root of the lung; she had a slight sense of weight and oppression, but no pain in the chest; short teasing cough, with but little expectoration; no symptom of hectic, except progressive emaciation. Under treatment the effusion was in a great measure absorbed; respiration returned to the upper portion of the lung, and œgophony became audible; the signs of excentric displacement disappeared altogether; and towards the end of August she was able to resume her ordinary occupations. I have been in the habit of

seeing this patient at intervals ever since; she was seldom more than three months without applying for advice, and on each occasion on account of pains and uneasy sensations in the left shoulder and lower part of that side; the least exposure to cold or any unusual fatigue always induced them, yet there was never any reason to suspect a re-accumulation of the fluid; on the contrary, there were each time I saw her evidences of further absorption; the symptoms were always alleviated by opiate applications to the side, and iodide of potassium internally.

On the 12th of October, 1853, her condition was as follows: the right lung had become enlarged, the anterior mediastinum being displaced to the left side; the respiratory murmur was puerile. The circumference of the left side was two inches less than that of the right; there was vesicular respiration audible over the entire left side, but it was very feeble, being most distinct posteriorly; the sound elicited by percussion was much less resonant than on the right side; the apex of the heart was in its natural position. She had a slight attack of bronchitis, which subsided in a few days, and I did not see her again until the 9th of January, 1854. She had then a slight return of the oppression of breathing, which she now referred to the *right* side. I was surprised to find that there was tympanitic resonance on percussion over the left side; there was also well-marked amphoric breathing, and a loud metallic ringing sound was produced by coughing or speaking loudly; these latter phenomena did not exist at the inferior part of the chest; there was no decided metallic tinkling, and succussion did not produce any splashing sound. The mediastinum was again displaced to the right side, but there were none of the other phenomena of excentric displacement, and measuring from the ensiform cartilage to the spinous process of the opposite vertebra, the chest still continued two inches smaller than the right. The general symptoms were very little altered from the time I had last seen her. She had no accession of fever, no increase of cough, no pain in the side, only a sense of oppression of breathing, and that very slight. She could lie equally well in any posture, but preferred lying on her back. On questioning her closely to find if I could refer the occurrence of the pneumothorax to a certain moment, she told me that on the night of the 6th she awoke with a pain in her left shoulder, and she fancied that from this time the breathing was a little oppressed, but she thought the pain in the shoulder was rheumatism, and it disappeared the next day under the use of friction. At this time Dr. Corrigan saw the patient, and agreed that it was clearly a case of pneumothorax, but without any proof of the presence of fluid in the pleura.

The question only remained then as to the cause of the pneumothorax.

The arguments against supposing it to have been the consequence of phthisis appeared to be quite conclusive. There was never at any time any reason to suspect the existence of phthisis, even before the occurrence of the pleuritis; and we know that the contraction of the lung after pleurisy tends greatly to the cure of the tubercular deposit rather than to its development *in the lung;* the great expansion of the opposite lung taking on a compensatory action is also an argument against the development of phthisis. Pneumothorax is frequently described as being caused by a pleuritic effusion, which is said to excite inflammation and ulceration in the pleura, and by the same processes to open a passage through the pulmonary parenchyma into the bronchial tubes, and so to be discharged. Such a mode of recovery I believe to be of exceeding rarity; almost all the effusions considered to have been so evacuated have, doubtless, escaped from the system by a vicarious secretion from the bronchial mucous membrane or a process of endosmosis, but that an occurrence like the above does occasionally take place is sufficiently proved by the case recorded by Archer in the Transactions of the College of Physicians, and others sufficiently authentic: that such was not the case in the present instance was obvious from the facts:—1st. That there was latterly no evidence from the general symptoms of any fluid remaining in the pleura, and as to the physical signs œgophony had long since ceased, and the test of position, which was at first very satisfactory, had latterly no effect in altering the degree or situation of the dulness, or feebleness of respiration. But, 2ndly, if the pleura had been perforated by such process to allow of the evacuation of fluid, or if fluid had been in the pleura at the time of perforation, this occurrence would have been followed by cough and discharge of fluid from the bronchial tubes, which has never yet occurred. And, 3rdly, it is absolutely proved that there has not been any fluid in the pleura since the occurrence of the pneumothorax by the complete absence of metallic tinkling or any splashing sound on succussion. I consider that the entire of the fluid pleuritic effusion which once existed in this case was absorbed; that the lung, so far from expanding in order to fill the space so left, was itself undergoing a process of compression from the amount of false membrane which had been poured out on it, and which, now organized, was, as is usual in such cases, contracting on itself, and leaving vacant a further portion of the pleura; the surrounding organs being unable to close in any further than they have

done, the vacuum has been filled by air, not secreted by the pleura (I doubt much the existence of any such case except in gangrene), but drawn by suction from a part of the lung least covered by adventitious membrane. Wood, in his "Practice of Medicine," endeavours to account for phenomena similar to the present in the following way. He says[a], "in some rare cases of partial pleurisy in which the liquid effusion is limited by adhesions, it is said that the place of the liquid absorbed is sometimes supplied by air, the lungs not being sufficiently expansible, nor the ribs sufficiently flexible, to fill up the vacuity. It is probable that the air in such cases is given out by the liquid, which always contains more or less of it under the ordinary atmospheric pressure, and yields it when that pressure is removed."

This form of pneumothorax is also alluded to by Williams[b]: "After a pleuritic effusion has long compressed the lung, and the compression has been perpetuated by a rigid false membrane which has been formed over it, the absorption of the liquid leaves a void which the collapse or contraction of the walls of the chest is in some few cases insufficient to obliterate, and this void is sometimes filled with air secreted by the membrane. I have seen two instances of a partial pneumothorax apparently produced in this way. They each occupied about half of the pleural sac,—one the upper, the other the lower half,—and the lung in both cases was strongly bound down by fibro-cartilaginous membrane, and condensed to the part contiguous to the empty space. There was also some contraction of the chest in both cases."

The case at present under consideration is very similar to those mentioned by Williams—in the pneumothorax being partial, and the side being contracted,—but the morbid anatomy of the disease clearly does not consist in a secretion of air, as supposed by Wood and Williams. If this were the case, we would not have the sign of amphoric breathing, which is most distinctly marked, and is heard most loudly in the act of expiration. Dr. Stokes has described[c] what he terms a cribriform state of the pleura, and says that he has frequently observed it in connexion with chronic pleurisy. He does not say, however, whether it was attended during life with any or what physical phenomena.

So long ago, however, as February, 1838, I recollect and have notes of his demonstrating this morbid condition of the pleura in a case which he then termed one of chronic

[a] Vol. ii. p. 54. [b] Fourth Edition, p. 125. [c] Diseases of the Chest, p. 539.

pneumothorax, and this condition, or one very similar to it, I believe to be the true morbid anatomy of the disease which is usually termed pneumothorax by secretion. Extravasation of air into the pleura, in a case similar to the above, is analogous to what has occurred in the same membrane placed under different circumstances. After the operation for empyema, the entire of the fluid being withdrawn and air most carefully excluded, the lung, from previous compression, has been unable to fill the cavity, and the patient has suddenly died from the quantity of blood drawn by suction from the surface of the lung.

It remains to say a few words as to the treatment and progress of the present case. Although the affection supervened almost insensibly, without pain or stitch in the side, yet for some days she was strictly confined to bed and to low diet, and small doses of opium were frequently administered. When it was discovered, however, that no symptom of inflammation of the pleura set in, she was allowed to leave her bed, the opium was omitted, and she was ordered a small quantity of cod-liver oil at night, and milk diet.

The slight dyspnœa which she complained of has now declined. She is taking tartrate of iron in wine, and has found the greatest possible relief from the left side of the chest being tightly bandaged. She takes animal food daily, and is permitted to go about the house, but has not yet been allowed to go out.

There is still (April 4) tympanitic resonance on percussion, amphoric breathing, and metallic vibration of voice and cough over the upper half of the left side of the chest, but no indication of the existence of any fluid in the pleura, and the left side of the chest is still contracting. There is some vesicular respiration audible near the spine and inferior portion of the chest. Her appetite and general health are daily improving.

The chief peculiarities of this case seem to be—1st. Its supervention in a case recovering from pleuritic effusion, in which there had never been any sign of phthisical development. 2nd. Its supervention without any pain or sudden stitch in the side. 3rd. The complete absence of all symptoms and physical signs of inflammation of the pleura as a consequence of its supervention. 4th. Its partial character: the lung was never completely collapsed; there was always some vesicular respiration near the spine, and at the base of the lung. 5th. the absence of any sign of the coexistence of fluid in the pleura. 6th. The very slight inconvenience which the patient seems to suffer from its continuance; and lastly, the mode of

reatment which appears to give most relief being tonics and properly arranged pressure on the affected side.

V.—*Cirrhosis of the Liver: its different Causes: its occurrence in very young subjects.*

Richard Moffett, aged 15, was admitted into the Whitworth Hospital in June, 1853, for purpura hæmorrhagica; he was a thin, delicate-looking boy. His mother stated that he was a healthy child until about fifteen months old, when he was attacked with hydrocephalus, but this soon disappeared, and he enjoyed good health until he was five years of age. He was then seized with liver complaint, the sclerotic coat of the eyes became yellow, and the whole body was jaundiced; the urine was high-coloured, and the stools white and doughy. He remained in this state for twelve months, and was then sent to the country for seven months. He came home recovered, and continued in good health (with the exception of a chronic diarrhœa and epistaxis, to which he was always subject), and was apprenticed to a trade about two years ago. Twelve months since he complained of a general ailing, suffering from sickness of stomach, loss of appetite, and increased diarrhœa, with severe pain attending it. He seemed to recover, and resumed his occupation, continuing at it until a few weeks before admission into hospital; in addition to an eruption of purpuric spots over the entire body, he had then epistaxis and frequent bleeding from the gums. The spots were of various sizes, from the diameter of a pin's head to that of a large pea, and there were also several small greenish patches over the body, like contusions. The skin was peculiarly dry and harsh; he had no anasarca, ascites, nor local œdema; he remained in hospital five weeks, and was discharged convalescent; the purpura had entirely disappeared; he was treated principally with oil of turpentine, vegetable diet, and the warm bath. The epistaxis recurred from time to time, and he continued to present himself as an extern patient for the relief of this symptom, but during all this time he had neither jaundice, dropsy, pain in the shoulder or side, nor any other symptom from which disease of the liver could with certainty be inferred. On the 25th of November he came down stairs staggering, and complaining of lightness in the head. He also vomited a transparent liquid, followed by a little blood; shortly after, he seemed to recover, and ate a hearty dinner. On the 27th, he vomited a good deal of a reddish, brown-coloured liquid, like water mixed with coffee. During the day he recovered a little, and was able to walk about, and his appetite was tolerably good. On the 28th, at the same

hour, he again vomited a similar fluid, mixed with undigested food. He had a return of vomiting during the day, and a motion from the bowels; the fæces were of a very dark colour; he complained of great weakness. On the following day he applied for admission into hospital, complaining of nausea and pain in the abdomen; he vomited blood three times that day, and was so weak that having got out of bed he was unable to return to it; he expired at four o'clock the next morning.

Post-mortem Examination.—The body was well formed and rounded. A few spots of purpura were seen on the legs. The pericardium and heart were healthy, except a slight thickening of the aortic valves, and a few spots of purpura on both auricles. The lungs were also in a tolerably healthy state. In the apex of the left a few tubercles were found. There were a few spots of extravasated blood on the surface of both lungs. There was no effusion into the peritoneal cavity, and the omentum was covered with fat. The liver presented the appearances of cirrhosis in a very advanced stage. It was very much reduced in size, but much heavier than natural. Its surface was entirely nodulated. Its shape was altered, having now become like an irregular ball. Along the originally sharp edge the substance of the liver had retracted, leaving the thickened peritoneum projecting beyond it. Its colour was of a light amber, and its consistence exceedingly firm and tough. A section of it, under a magnifier, showed most remarkable hypertrophy of the connective tissue, and complete isolation of the acini of the liver. The gall-bladder was small, thickened, and pale. The spleen was slightly enlarged. The stomach was distended, and filled with coffee-coloured fluid, similar to what was vomited during life. The mucous membrane was slightly congested. The duodenum contained coagulated blood;—the jejunum was free from it; but from its termination to the end of the rectum, the intestine contained a great deal of it. There was no appearance of inflammation or ulceration of the mucous membrane. There was neither anasarca nor effusion into any of the serous cavities.

There are several points of interest in the above case. 1st. The complete absence of dropsy or any other leading symptom of the disease of the liver, which was so far advanced. 2nd. The youthful age of the patient. Baron and Gherard have, however, recorded examples of it in much younger subjects, and in December last there was under my care, in the Whitworth Hospital, a young lad, twelve years of age, with the following symptoms, which I consider pathognomonic of the disease:—Emaciation, with a light yellow earthy "jaune

terrense" hue of the skin; very great enlargement of the spleen; retraction of the liver, and slight ascites, with epigastric tenderness, and enlargement of the superficial veins of the abdomen. 3rd. The mode of the patient's death, by a sudden attack of hematemesis. Dr. Law (who asserts, moreover, that cirrhosis is the only disease of the liver in which hematemesis occurs), in the year 1829 drew attention to hematemesis as a symptom of cirrhosis of the liver, and as such it has been frequently observed; but it is rarely the cause of death. A remarkable case of this kind occurred some years ago in the Whitworth Hospital, under my observation. Thomas Enright was admitted, under the care of the late Dr. Greene, for cirrhosis of the liver; he was in hospital for some time, and was supposed to be much improved, when he died suddenly in the middle of the night. I examined the body on the following day: the liver presented the usual appearance and anatomical character of cirrhosis; the spleen was very much enlarged; the stomach was greatly distended, with black, coagulated blood, which had been poured out from the capillary vessels; there was no wound of any vessel, or other abrasion in the stomach. The specimen is still preserved in the Museum of the Richmond Hospital.

4thly. With regard to the cause of the disease, it is manifest that in the present case it was not produced by the ordinary assigned cause, the constant use of ardent spirits. This, however, is doubtless the most common cause; and here, as Dr. Budd says, the inflammation of the areolar tissue is probably owing to the diffusion of alcohol through it from the portal veins.

I have been able to trace cirrhosis of the liver to three other distinct causes:—

1st. Following a local peritonitis. In this case the hypertrophy or degeneration of the fibrous tissue of the capsule of Glisson is caused by an extension of the inflammation from the serous membrane in the same way as we observe the analogous disease to spread through the lung as a consequence of inflammation of the pleura.

2ndly. As a consequence of duodenitis. Such cases are at first attended with all the symptoms of acute hepatitis, from the rapid spread of inflammation along the ducts, but if these be neglected or improperly treated, they are followed by a low or chronic form of inflammation, which consists, in fact, in an extension of the disease to the fibro-cellular matrix, producing subsequently the usual evidences of cirrhosis.

And lastly, I have seen cirrhosis occur as a consequence of

enteritis of the lower part of the intestinal canal, gradually extending upwards. The progress of the disease in these cases differs from that in duodenitis in being always much slower, and not marked by any of the acute symptoms by which the former is indicated.

These divisions of the causes of cirrhosis account fully for the differences observed in various examinations in the several component parts of the liver and its adjuncts. In the present case it is probable that the disease commenced as inflammation of the duodenum, and that a neglected hepatitis, the consequence of it, terminated in cirrhosis of the liver.

Art. XVIII.—*Brief Remarks on some Points connected with Pneumonia.* By Henry Kennedy, A.B., M.R.I.A., Physician Extraordinary to Sir Patrick Dun's Hospital[a].

Several years have now elapsed since I took notes of a number of cases of pneumonia, which, occurring, as they did, within a very brief period of each other, might almost be called an epidemic of the disease. At any rate the cases presented some features of interest, which I have often had occasion to verify since; and which I purpose making the basis of a few remarks. I should say that the cases occurred all in the spring of the year, at a time when the sun was unusually hot, and the wind in the shade, piercingly cold. I would also wish it to be understood that the remarks are in truth "disjecta membra;" and only so far related, as that they all occurred in the one disease. The number of cases of which I took notes at the time amounted to 17; and it is worthy of remark that of these the disease prevailed in the left lung in 12; in 2 it was double, and in the remaining 3 it was confined exclusively to the right side. What determined the disease to show itself in this particular way, it would be hard to determine: for it is known to be directly contrary to the statistics of pneumonia brought out on an infinitely more extended scale, the right lung being the one most generally affected; nor in the particular instance given was the disease of the typhoid type. True, the numbers I have alluded to are very small, and yet I cannot but think the fact stated is a remarkable one, and worthy of record. I have seen nothing like it since.

A second point which the cases alluded to forced on my attention was, the time which elapsed previously to the develop-

[a] Read before the Surgical Society of Ireland.

ment of the physical signs. This is a point which has been very commonly observed in reference to all kinds of fevers, where two or more days will elapse before we can pronounce as to the nature of the attack. But it has not been so generally observed upon in the acute phlegmasiæ, particularly those of the chest; and yet it is very common. I have now had occasion to observe it in a large number of instances. That is, we will have all the general signs of the disease, as, for instance, pneumonia, pleuritis, pericarditis, and even bronchitis, and yet we will not have the physical signs developed, on which alone we can pronounce with certainty. And thus forty-eight hours and even more will pass over, and we will be kept in doubt all this time. This point has been especially noticed in reference to pericarditis, and particularly by Dr. Mayne in his able Essay on that disease. But it also obtains in the other affections spoken of; pneumonia affording very marked examples of it. Some time back I saw, with my friend, Dr. Denham, a case of this sort, where three entire days elapsed before we could pronounce a case to be one of pneumonia. In this instance, besides sharp feverish symptoms ushering in the attack, there was also marked vomiting at the commencement; a symptom little likely to lead to a correct diagnosis. I may mention, too, that exactly the same occurrence often happens in pneumothorax, where, though we have the strongest presumptive proofs of the accident having taken place, yet thirty-six or forty-eight hours may elapse before the physical signs are evident. It may be observed in passing, that while examining the lung, in which physical signs of pneumonia were afterwards developed, the respiration was almost invariably weaker than on the opposite side; and I cannot but think, though high authority has stated it, that a puerile respiration, at this stage, must be a very exceptional case indeed.

From what has preceded, then, it will be understood why it has appeared to me necessary to direct more attention to what may be called the initiatory stage of the acute phlegmasiæ of the chest, and more particularly of pneumonia, than it has hitherto received. The diagnosis of disease is too important a point to neglect any facts which tend to throw light on the difficulties which surround it, and what has been stated bears on it directly.

The seat of pain in pneumonia, when it exists, for it does not always do so, very generally corresponds to the seat of the disease. I have now, however, seen a number of cases where this correspondence did not take place; and I believe the point worthy of notice. I am not now speaking of the period before

the disease has declared itself; where, as is well known, flying pains in different parts are often complained of, but of a period when the disease is fully formed. Thus I have repeatedly seen the pain complained of in the usual site, low down on either side, or under the breast, and yet the disease itself has been at the top of the lung; and in some instances there has been evidence of healthy lung intervening between the diseased portion at the top and the seat of the pain. Again, I have met, though rarely, cases where the pain was referred to one side, whilst the disease was situated at the opposite. One of the most remarkable of such cases occurred very lately in Cork-street hospital, under the care of my friend, Dr. G. A. Kennedy. In this instance a man named Grady, eighteen years of age, was admitted with very sharp fever, and complaining of severe pain in the left side, in the usual site. He lay in bed inclined to the right side, but not lying completely on it. On examination I found the left lung affected with puerile respiration from top to bottom, and with this a very clear sound on percussion. In fact there was no sign whatever of pneumonia affecting this lung, *though he had been some days ill* on admission. On the right side, however, I must say I was somewhat surprised to find the lung solid, as it is erroneously said, from top to bottom; in fact affording a marked example of tubular respiration[a]. Although I examined this man several times subsequently, I never detected any change in the physical signs on the left side. The cause of the pain, in both the class of cases, is probably due to the presence of some amount of pleuritis, though physical signs may not always be present to show this. I have sometimes thought, however, that it might be due to some spasm of the intercostals, being the affection known as pleurodynia.

Speaking of the seat of pneumonia, I would allude to a case which I saw several years since, and appears worthy of being put on record.

A girl of 16, five days ill, was admitted into the hospital labouring under a very serious illness. Her pulse was upwards of 140; her breathing very hurried, and she was raving. On examination, dulness was found in the right mammary region, and this reached the clavicles. Posteriorly, however, corresponding to the dull region in front, the sound on percussion was remarkably clear. To the stethoscope, tubular breathing was heard in front, while posteriorly it was natural, but pos-

[a] On another occasion I have adverted to the fact that the lung does not become absolutely solid in any form of pneumonia, though from the accounts in books this might be inferred. Some of the bronchial tubes always remain open, and afford some respiration during life, and may be always seen after death.

sibly a shade stronger than usual. There was not a trace of crepitus anywhere. The girl died on the night of the day she was admitted; and on examination, a fine specimen of pneumonia, in the second stage, was found; but it was confined exclusively to the anterior surface of the middle and upper lobes of the lung, the posterior being quite healthy. The lower lobe was not engaged at all. I have given this case as affording an unusual modification of the seat of pneumonic disease, and as such, worthy of note. I have also seen the base of one, and the top of the opposite lung, affected at the same time.

The expectoration of pneumonia has, from the time of Laennec, attracted much notice; nor am I going to speak of it now at any length. I would just observe, that it often affords a confirmation of the point with which I began these remarks —viz., that the physical signs may not exist for one, two, or three days, after the attack has commenced. Just in the same way there may be no expectoration for many hours after the disease has shown itself, even though at the time there is cough. Cases, too, occur where, though there is expectoration in the first instance, still it does not assume the character of rusty sputa till some time later in the disease. The total absence of sputa during the whole disease has also come under my notice, even in adults; and this has been observed by others. There is, however, one symptom connected with the expectoration which has several times come before me, and which calls for more notice than, I believe, it has hitherto received. I mean hemoptysis, as quite separate from rusty sputa. This may occur to a very considerable extent. Amongst the 17 cases to which I have so often alluded, it took place in no less than 3; and in one of these a large quantity of blood was lost. Since that time, I have often seen it in solitary cases. It is one of the few instances in which hemoptysis may occur in a man, and yet be of comparatively little moment. There will be occasion to allude to this occurrence again.

On the subject of crisis occurring in the progress of pneumonia, I need scarcely speak again; for on a late occasion, special attention was directed to it. I shall only add, that since then, two examples came under my notice in the Cork-street hospital. They occurred in the same week, began very nearly at the same hour in the morning; and one, especially, was really as marked an example of the occurrence as I ever saw in essential fever. In both instances, the crisis was by perspiration; and in one there was, in addition, a copious deposit in

the urine. As a whole, I cannot but look upon the fact as an important one in the history of the disease.

Dr. Addison, of London, has drawn special attention to the presence of what is known as "calor mordax," as diagnostic of pneumonia. It has often come under my notice; and in the 17 cases already spoken of, it existed in the great majority, and in a marked degree. On the other hand, I have seen a much greater number of cases where it was not present; many of these, too, where, with livid extremities, the temperature of the surface was actually below the healthy standard, and afforded no biting sensation to the hand. Neither is it confined, as all must be aware, to pneumonia. I have met with it often in scarlatina, in erysipelas, in ordinary fevers, and, more especially, the febrile affections of childhood. For these reasons, then, I would certainly not give it the prominent place Dr. Addison has; for, from reading his essay, one would really be led to think it was the *sine qua non* of pneumonia.

The complications of pneumonia are amongst the most important parts of the subject. Yet it is my intention here to notice one only, to which, some time back, I briefly directed attention. Each year since, however, is adding to the importance of the complication, and showing me it is one which calls for more special attention than, as far as I am aware, it has hitherto received,—I allude to pneumonia complicated with affection of the brain. Hippocrates notices the fact of raving in the progress of the disease; and he makes it a fatal symptom. This is going farther than is quite correct, at least, in this city; for I have seen a good many cases now where patients recovered after having exhibited it, and who raved even while awake. It is not the mere existence of raving, however, to which I would now direct attention, but the fact that the symptom is often due, in such cases, to actual disease of the brain or its membranes. It is now several years since I had occasion to examine a case where, during life, raving existed. Being curious to ascertain the state of the brain, I opened the head, when, to my surprise, I found lymph effused in considerable quantity—in fact, a genuine arachnitis. This I have met different times since; and more especially, when pneumonia affects the upper lobe of the lung. Hence one reason, at least, why this latter affection is so much more fatal than ordinary pneumonia, as probably every one is aware. Hence, also, the importance of ascertaining whether the raving be merely sympathetic, or due to actual disease. Hence, too, the question of treatment, and especially in the latter case. In

fact, the existence of disease in the brain alters, in every point, our views of the subject. But this may go still farther; and actual paralysis may happen in the class of cases I am now speaking of. For the notes of the following case I am indebted to my friend, Dr. Albert Walshe:—

A young man, aged twenty, rather delicate, was attacked with feverish symptoms, which were treated as fever for eight days. Dr. Walshe then first saw the patient, and detected pneumonia affecting chiefly the upper lobe of the left lung. The fever ran very high, and there was "calor mordax." The patient also complained of headach, and had raved during the night. By means of local treatment, and calomel and opium, the symptoms subsided a good deal, and the patient expressed much relief as regarded his head. The pulse, too, which had been 130, fell to 96. Two days later, however, he began to complain again of his head, and a day later still the right side suddenly became paralytic. The tongue was protruded to one side, and he was unable to speak. From this state, though active remedies were used to the head, he never rallied. The physical signs in the chest improved a good deal before death, which took place within forty-eight hours of the occurrence of the paralysis. There was no post-mortem examination. There can, however, be little doubt, from what has gone before, that serious mischief existed in the brain, and of the acute kind.

In connexion with this particular point, that is, the co-existence of affection of the brain with disease in the chest or abdomen, I may mention that something very analogous occurs, and not unfrequently, in chronic disease. Thus, in some cases of tabes mesenterica, after it had existed for months, I have seen the signs of the disease lull, as it were, and then be succeeded by disease of the brain, of the nature of hydrocephalus. And again, in phthisis, but this is more rare, the very same thing has come under my notice; and it was really curious to observe, in both these complications, how very latent the original disease became. The occasional connexion of phthisis with disease of the brain has been specially written on, in a paper which I recollect reading many years since. On the whole, this complication of diseases in the chest and brain seems to me one of considerable importance.

On the treatment of pneumonia I have little to say. I would, however, venture to call in question the tendency, if it be nothing more, which is beginning to prevail just now—I mean the idea that bloodletting of any kind is injurious, and which has been advocated by Skey, Todd, Bennett, and others. I am satisfied that these opinions may be carried too far; and

that in some instances general and, in by far the majority of instances, local depletion may be used with the most marked advantage. Cold extremities and a weak pulse at the wrist are not to deter from active treatment, provided there be evidence of acute pneumonia in its first stage, and of short duration. The result of depletion, of whatever form, in such cases, is too marked to admit of doubt. The relief expressed by the patient; the development of the pulse; the very increase of the animal heat itself, all show that these are due to the depletion. Two facts also, already spoken of, appear to me to bear strongly on this question. The first is, that I have seen distinct crisis occur after a marked antiphlogistic treatment. I am not sure that any single argument could be advanced which would confirm the value of active treatment more distinctly than this; for, had the treatment been injudicious, it would surely have interfered with such a process as crisis. The truth is, that in the proper cases for antiphlogistic treatment, the result is to lower the excitement of the system, which was too great to allow a process like crisis to go on. It does not appear possible to explain the fact on any other supposition.

The second point which I think confirmatory of the propriety of a depletory treatment in the proper cases has been already alluded to—I mean the existence of hemoptysis. If nature herself relieves the lung by a direct outpouring of blood, it appears to me, the practitioner will rarely err, who with ordinary judgment has recourse to the same plan.

In concluding these desultory remarks, I shall venture to throw into a series of propositions the points which have appeared to me worthy of being brought under notice.

1. That the general signs of pneumonia often precede the physical, by a period of from one to three days.

2. That pain may exist low in the side, though the disease be at the top of the lung.

3. That pain may exist in the side opposite to the disease, and would appear to be, at times, due to spasm of the intercostal muscles, rather than pleuritis.

4. That pneumonia may affect the anterior surface of the lung, leaving the posterior free.

5. That hemoptysis may occur in pneumonia quite independent of the existence of tubercles, and quite distinct from pneumonic sputa.

6. That distinct crisis is by no means uncommon in pneumonia.

7. That "calor mordax" is not at all a necessary symptom of the disease.

8. That the raving which so frequently attends pneumonia is often due to the existence of acute disease in the brain.

9. That this disease of the brain may even lead to paralysis.

10. That the antiphlogistic treatment, including bloodletting, and modified according to the demands of each case, is the best treatment which can be adopted in the early stages of the acute and sthenic disease.

Art. XIX.—*Contributions to Midwifery*, No. VIII.—*Chloroform in Parturition*[a]. By Thomas Edward Beatty, M.D., M.R.I.A., Professor of Midwifery to the Royal College of Surgeons in Ireland; Physician to the City of Dublin Hospital; Vice-President, Dublin Obstetrical Society; Honorary Member, Obstetrical Society of Edinburgh, &c.

It may be in the recollection of some of the members of the Obstetrical Society, that in the last paper on the use of chloroform in midwifery, published by me, I stated my belief that there was no case of ordinary labour in which it would be found necessary to produce complete sopor, but that the mode and extent of administration set forth therein would be quite sufficient in all cases to procure the relief sought for by the use of the drug. A very short time elapsed, after the publication of that essay, when I met with the following case, which served to show me that the opinion therein advanced was not strictly tenable, but that cases may and do arise—rarely, I believe—in which it will be necessary to deviate from the rule laid down, and instead of the small and often repeated doses by inhalation of chloroform, so as to secure freedom from pain without deprivation of consciousness, a full and free use of the drug will be required to overcome the highly exalted state of the nervous system, and procure repose.

October 2nd, 1852. Mrs. ——, aged 23 years, a thin, spare, delicate, highly nervous and excitable person, was taken in labour of her first child at 11 o'clock, P.M. The pains increased gradually for four hours, when the os uteri was nearly dilated, and the head of the child was well advanced through the cavity of the pelvis. She was very anxious to have the chloroform, and accordingly the inhaler was used in the manner so often described by me. She continued the use of the drug

[a] Read before the Dublin Obstetrical Society.

for six hours without intermission, and without any signal benefit or relief. She seemed to suffer more pain than falls to the lot of the great majority of patients, and she was less influenced by the inhalation than I had ever witnessed. She dashed herself about with uncontrollable violence, and notwithstanding she had inhaled fully four ounces of chloroform in six hours, given through the inhaler, she resisted its anæsthetic influence. At this juncture I saw that my usual mode of administration would not do, and that something more decisive must be resorted to. The pains were violent; the head had just come to press on the perineum; the prospect of delivery in a short time was but faint; I therefore determined to get her at once completely under the full action of chloroform. With this view, I placed a piece of sponge in the bottom of a tumbler, and, having moistened it with the drug, I applied the mouth of the glass over the mouth and nose. Her violence was soon subdued, and she fell into sleep, in which condition I kept her for four hours, during which the pains continued with equal violence as before. At the end of that time, finding the head had not made advance through the pelvis, I had recourse to the forceps, and delivered a very large living boy. I was struck with the rapidity with which this lady recovered consciousness after the chloroform was withdrawn from her. In a quarter of an hour after the child was born, she was the only person in the house who could remember the name of the woman who had been engaged to nurse the child, and where she lived. This showed that her sensorium was not materially or permanently affected by the enormous amount (6 oz.) of chloroform she had employed during ten hours of her labour.

I have since met with two or three patients whose tolerance of chloroform was nearly equal to that just described, but none to come up to it.

The following case exhibits in a striking manner the value of chloroform in one of the most perilous conditions attendant on parturition, namely, *puerperal convulsions*:—

September 29th, 1852. Whilst still in the house of a patient who had been just delivered of her first child, after using chloroform for eight hours, I was summoned to a lady residing ten miles from Dublin, whom I had attended at the birth of three children while she had lived in town, but on this occasion, having made up her mind to remain in the country, she had placed herself under the care of a gentleman in her neighbourhood. I reached the house at four o'clock, P.M., and as I entered her room she was seized with a most violent convulsion.

Immediately I opened a vein in the arm, and took upwards of twenty ounces of blood. The convulsion subsided, but she did not recover consciousness. I was struck by the extraordinary extent to which her limbs and face were swollen, and I now learned from the gentleman in attendance that she had suffered during the last two months from a gradually increasing swelling of the legs and feet, which finally reached the thighs and upper extremities, and face. She had taken labour early in the morning, and was delivered about twelve o'clock of a very deformed child that did not live. Very soon after the expulsion of the child she complained of pain and swimming in her head, and became confused in her ideas and speech. It was on the occurrence of these symptoms I was sent for. No convulsion had taken place before the one I witnessed, but the threatening symptoms had never subsided from the commencement. As she did not recover after the bleeding, I expected she would not be long without another attack of convulsion. In this I was not disappointed, for in about a quarter of an hour she was again seized, and again I drew a similar quantity of blood from the arm. The hair was cut off, cold was applied to the head; still there was no sign of any return to consciousness on the subsidence of the fit. Tartar emetic in large doses was with difficulty got into the stomach. In less than half an hour another violent fit supervened. Her state was now one of great danger. Bleeding could not be carried any farther. The pulse was small, fast, and feeble. Chloroform appeared to hold out the only hope for her. I at once commenced its use, with most decided effect upon the convulsion. It subsided more rapidly than either of the others had done, she slept more naturally after it was over, and seemed rather less stupid when the sleep ended. Nothing like consciousness, however, appeared. I sat by the bedside and watched the advent of another fit, which being perceived I applied the chloroform and cut it short. This occurred several times, with intervals gradually prolonged between the attacks. At the end of two or three hours she opened her eyes and looked about her, though still quite unconscious and unable to answer questions. From the state of stupor she gradually passed to a condition of mania, like what I had before seen in patients recovering from severe convulsions. She sat up in bed, endeavoured to get out of it, and knew nobody around her. In this state the chloroform was of the highest benefit, for by its use she was speedily calmed down, and having kept her under its influence she soon fell off asleep. Whenever she awoke and showed signs of similar violence, the same remedy was at hand to tranquillize her; and in this manner she

was kept under the effects of the drug for twelve hours: at the end of that time she was able to recognise her friends about her, and she slowly but completely recovered.

I am not aware that the powerful agent, for which we are indebted to Dr. Simpson, has been used by any one in cases of *uterine hemorrhage;* and from the imperfect knowledge hitherto attained of the truly wonderful properties of this medicine, it is not surprising that its application to such cases should have been looked upon as inadmissible by even its most warm supporters. In the case I am about to relate, I was, I may say, compelled to resort to chloroform for assistance, and I am happy to say I did not call in vain. The success was so striking, the result so gratifying, that I did not hesitate to employ it in another and similar case, which occurred since I commenced to put these observations together for publication.

February 14, 1853. I was brought five miles from Dublin to attend a lady who had been under my care in three former confinements while she resided in the city. On my arrival I found the head just passing through the vulva, the labour having been short and easy. The child was soon expelled, and before the placenta came away a very profuse hemorrhage took place.

A drachm of ergot of rye was now administered, pressure, &c., of course, was attended to, and the placenta, being found in the vagina, was removed. The hemorrhage continued with great rapidity, notwithstanding very good contraction of the uterus. Vinegar and water, freely applied, seemed unavailing. The ground was covered with snow at the time. I ordered a bucketfull to be brought up to the room, and making up balls I passed them into the vagina, and heaped the hips and abdomen with the snow. By these means the hemorrhage was at last arrested, but the patient, a very small, slender woman, was reduced to a very low ebb indeed. The pulse was nearly imperceptible, the breathing distressed and gasping, and the formidable complaint of noises in the ears was urgently made. Fifty drops of laudanum in brandy were given, and in a quarter of an hour, the symptoms growing worse, seventy drops more and large quantities of the brandy were taken. Great exhaustion, great nervous excitement, great desire for sleep, harrassed the patient. Repose was indispensable to her safety; opium did not procure it; time was of consequence. It occurred to me that if I could tranquillize the nervous system for even a short time, the opium she had taken would come into play and continue the narcotic influence so essential to her life.

I fortunately had my chloroform with me, and as she lay tossing from side to side and calling for air, I applied the chloroform to her nose. She soon became more calm, by degrees the jactitation ceased; she assumed a more composed attitude; and, to my great delight, sleep, quiet and natural, soon came over her. Hot jars were placed to her legs and feet, and finding the sleep so natural, I held the instrument with the chloroform at a distance from her mouth, so as to keep up the action in a faint degree. It was most interesting, and, as may be well imagined, very exciting, to watch the state of the pulse during this time. I was too far off to get any assistance. I had tried an experiment with a powerful agent, but my firm belief was that the new medicine would save her life. With the finger on the pulse while she slept, I waited for the returning wave, sometimes imagining the impulse was greater, again finding it feeble as before. But it did increase in strength, and before she had slept half an hour there was a manifest improvement in the beat. The feet were kept warm, and the sleep was kept up for two hours, at the end of which time she awoke most miraculously refreshed. In fact I never saw any patient so thoroughly recovered at the end of twenty-four hours as this lady was at the end of two. She rapidly returned to perfect health.

Encouraged by the marked benefit derived from the administration of chloroform in this hitherto forbidden kind of case, I was led to employ it under similar circumstances on the 8th of the present month (March).

A lady was delivered of her third child after a natural easy labour, and as soon as the placenta came away a great rush of hemorrhage followed, which continued with great violence for an hour. Ergot and the usual means succeeded in arresting the flow of blood, but she was left in a very exhausted condition. Absence of pulse, prostration, sighing, jactitation, &c. were prominent. Laudanum in doses of fifty drops, repeated in ten minutes, and brandy freely given, failed to procure rest. Indeed the opium seemed rather to prevent sleep. I now placed a piece of sponge in the bottom of a conical shaped wine-glass, and having moistened it with chloroform, I held the glass over the mouth and nose of the patient. The medicine did not fail to produce its usual soothing effect. Soon the nervous excitement passed away, by degrees the eyelids closed, and healthy natural sleep was induced. This was maintained for two hours, during which the warmth of the body returned, the pulse returned at the wrist and slowly regained strength, and at the end of the time when she awoke she said she felt perfectly well and happy.

She described the first effects of the chloroform as being most delightful. The peace of mind and soothing of the whole nervous system produced by it, she declared resembled a foretaste of heaven.

My attention was arrested on reading, in the Dublin Medical Press of January 11, 1854, the report of the meeting of the Royal Medico-Chirurgical Society, held on the 13th of December, 1853, when Dr. R. Lee read a paper purporting to contain an account of certain cases of parturition in which chloroform was inhaled with pernicious effect. The report in the Medical Press corresponds with that given in the Lancet of December 24, 1853; and as no attempt has been made to contradict the truth of these reports, I am justified in supposing them to be correct. When a man is arraigned for libel in a court of justice, it is usual to read the article for which he is accused, and with your permission I will imitate that example and read the offensive document in question:—

"In these seventeen cases the author traced a series of injurious consequences to the employment of chloroform during labour. Thus, in Cases I. and II., the contractions of the uterus were arrested by the chloroform, and delivery was completed by craniotomy In Cases III., IV., V., X., XIV., XV., and XVI., insanity and great disturbance of the brain followed its use. The necessity for delivery by the forceps was attributed to its employment in Cases VI., VIII., XI., XII, and XIII. Dangerous or fatal peritonitis or phlebitis ensued after the exhibition of chloroform in Cases VII., VIII., XI., and XIII. Epilepsy occurred in Case XIV.; and dangerous fits of syncope arose from its use in Case XVII. The reports of friends had confided many more analogous cases, and public rumour swelled the list still further, but he was desirous of confining attention to those which came directly under his own observation. He thought that a contemplation of the subtle action of this poison on the nervous system would have induced caution in its application to practice, but, on the contrary, the greatest levity had characterized its employment. Very soon after the discovery of its physiological effects, the author was astonished and confounded by the announcement of its application to midwifery; and it was not difficult for him to foresee that rashness, in its application and use, would lead to most deplorable results, and he regretted to find, that in this he had not been mistaken. It was not wonderful that women doomed to bring forth their offspring in pain and sorrow should seek to escape from the troubles of our race by means of this treacherous gift of science; neither could we feel surprise that the in-

stances of women who were saved from the grievous pains of child-bearing, without bad consequences, should have for a time reduced to silence those unwelcome monitors who pointed to the possible evils of this new agent; but it did seem strange to the author that, amidst so wide-spread an experience as now existed of the noxious and dangerous effects of chloroform, it should be necessary for him to assemble the proofs of the havoc it had made. The two most serious effects produced by chloroform on women in labour were, a languid and deficient contraction of the uterus, and a greater susceptibility to the risks that arise from inflammation and fever. With regard to the first, the direct testimony of his own senses convinced him that the action of chloroform did very manifestly slacken the uterine contractions, and in some cases had put a stop to them altogether. Of the second class of effects, the risks of the puerperal condition were much complicated; for to inflammation and fever must be added severe cerebral and nervous disorders. He had no doubt that the use of this noxious agent ought to be expelled from the practice of midwifery. In conclusion, the author observed that, though his opinions had been confirmed by conversation with the most discreet and experienced practitioners, yet he entertained grave doubts of the result of the present appeal to the good sense of the profession, when he considered the arts used to propagate a faith in this practice. It had become almost an extra-professional question. There was a systematic concealment of truth by physicians; appeals were made to the natural timidity of woman; and the most fallacious promises of perfect safety were boldly held out. Conceited or ignorant women of fashion made a pastime of this as of other quackeries, and the cause of science and humanity was placed in the hands of the most presumptuous and frivolous part of the community, while young and inexperienced mothers were decoyed to their destruction. If he had helped to rescue the medical profession from the dominion of a great and dangerous error, and had placed some restraint on an ignominious and disgraceful practice, the author would rest satisfied that this essay had not been written in vain."

As I have been amongst the earliest advocates in this country for the use of chloroform in parturition, and am, by daily experience, more and more thoroughly convinced of its immense advantages, I cannot suffer so gross an attack upon the characters of those who employ this agent to pass without making some observations on the subject, at this the first meeting of the Obstetrical Society which has taken place since I

read the report of the meeting of the Royal Medico-Chirurgical Society, at which the paper was read.

Two points are to be attended to in commenting upon this most extraordinary document:—1st. The cases by which the prejudice of the author is supposed to be bolstered up; and next, the offensive language in which sentiments and opinions equally offensive are expressed. Unfortunately, the cases have not been published, and, therefore, we are at a loss to know what value to place upon them; but, judging from the headings under which they are grouped in the published report, I think the reputation of chloroform in midwifery has little to apprehend from this attempt to extinguish it.

Thus we are told in Cases I. and II., the contractions of the uterus were arrested by the chloroform, and delivery was completed by craniotomy. Now we do not require any details to enable us to perceive the folly of adducing such cases as pernicious consequences of chloroform. Every one who has written on the use of chloroform in parturition has stated, that when given in large quantity, so as to cause insensibility, the effect, at first, is to arrest the action of the uterus; that, every one who has had real experience in the use of the drug, is well aware of, and cares little about: for he knows that in a very short time the action will return and go on as well as before. But he also knows, that if the agent is judiciously and cautiously employed in the manner I have advocated, so as to diminish sensibility to pain, without destroying consciousness, no such arrest of uterine contraction takes place, but, on the contrary, the fibres seem to act with increased vigour. But if, in these cases cited by Dr. Lee, the medicine had been used rashly and too freely at first, and a temporary suspension of uterine action had occurred, why they should eventuate in craniotomy does not appear. We all know that uterine contractions are often suspended naturally for hours in the middle of a labour, when no chloroform had been used; but that *alone* would never lead one to resort to craniotomy; there must be something else in the case, besides mere want of action in the uterus, to warrant such a proceeding; and so it must have been in these cases cited by Dr. Lee. Very likely the uterine action was interfered with by a precipitate employment of the drug; but it is also likely that the cases were such as would have required craniotomy equally, if chloroform had never been used; for I cannot for a moment imagine, that a physician of Dr. Lee's experience would resort to such an operation on the simple grounds of a temporary arrest of uterine action. In the

absence of details of these cases, we may safely put them down as *post hoc ergo propter hoc* cases, and class them among the absurd exaggerations (to use no more severe term), with which partisans so often attempt to mislead their hearers. If the cases ever occurred, they were bad cases requiring craniotomy, in which chloroform was used (perhaps rashly and unskilfully); and because the drug had been employed, the necessity for the extreme proceeding was attributed to it, when it might as well have been laid at the door of the cup of tea the patient had taken a week before. We have next seven cases in which insanity and great disturbance of the brain are stated to have followed the use of the drug.

In the absence of all clue to the nature of these cases, I can only observe, that when they are published the profession will have an opportunity of judging of their value; but, in the mean time, from a large experience in the use and effects of chloroform, I think it right to mention, that I have never met with a single instance of such results, and therefore must be excused for receiving with very great doubt any such assertion.

The necessity for delivery by the forceps was attributed to its employment in five cases. Why or wherefore does not yet appear; and I expect it will require some ingenuity to connect the effect with the supposed cause.

Dangerous or fatal peritonitis or phlebitis occurred in four cases after the exhibition of chloroform; and why should they not occur in those cases as well as in the thousands of cases in which they occur where no chloroform has been used? No one has ever said that patients who have used chloroform are to be exempt from the ordinary consequences of parturition; and unless it can be shown that a greater number of women are attacked by the diseases just mentioned, after the use of chloroform, than without it, it is absurd to adduce such instances as proofs of the "*pernicious effects*" of chloroform. One case of epilepsy, and one case of dangerous fits of syncope, make up the seventeen witnesses upon whose testimony this "treacherous gift of science," this "noxious agent, ought to be expelled from the practice of midwifery." It is no very uncommon occurrence, that an indiscreet and rash advocate should damage his cause by furnishing his antagonist with weapons calculated to defeat him. The animus of Dr. R. Lee can be gathered from the offensive sentiments expressed in the paper under consideration. It is quite plain that he exerted all his ingenuity, and adduced all the cases he could, to damage the reputation not only of chloroform, but of all who advocate its use; and yet, by this very effort, he furnishes them, on the very best

authority (that of a reckless and bitter opponent), with the grand fact, that he can adduce no instance in which a fatal result can be traced to the use of chloroform in midwifery. Where, in these seventeen cases, do we find those "most deplorable results," those "noxious and dangerous effects," that "havoc" attributed to this "treacherous gift of science"? Where, but in the brain of a partisan, wilfully shutting his eyes to the wonderful and still undeveloped powers of a new agent, with which it is quite plain he is still unacquainted, and seems determined to remain so. Leaving such exaggerated epithets to find their value with all rational observers, I cannot conclude without indignantly repelling the language applied to myself and others who have used and recommended the use of chloroform:—"There is a systematic concealment of truth by physicians;" and again, "an ignominious and disgraceful practice." Now, freedom of discussion—freedom in the fullest sense of the word, in which it can be used in polite society—I advocate and admire; without such freedom we cannot expect to arrive at satisfactory conclusions in many points of practice; but the unwarrantable license of such expressions as I have just quoted must be condemned by all, as subversive of that decorum which should attend controversy among medical gentlemen; and must be characterized as an audacious libel by those implicated in the accusation.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

A Clinical Introduction to the Practice of Auscultation and other Modes of Physical Diagnosis in Diseases of the Lungs and Heart. By H. M. Hughes, M.D., Assistant Physician to Guy's Hospital, &c. Second Edition. London: Longmans. 1854. Post 8vo, pp. 302.

Lectures on Clinical Medicine. By John Hughes Bennett, M.D., Professor of the Institutes of Medicine and of Clinical Medicine in the University of Edinburgh, &c. Edinburgh: Sutherland and Knox. 1850 to 1853. 8vo. Parts I. to VIII.

To form an accurate diagnosis in thoracic disease involves a synthetical as well as an analytical mental process: by the first, we determine those analogous phenomena which result from the combination of various physical conditions,—by the second, we infer the special character of these several conditions in their relation to such phenomena. The first demands a comprehensive knowledge of the anatomical and physiological characteristics of the healthy structures as the only safe foundation for a sound pathology—the second requires a close intimacy with morbid operations as they are evidenced through alterations in these structures. Pathology has therefore a twofold relation,—to disease as the exponent of vital action,—to health as the evidence of an abnormal condition. To study with advantage or practise with success, it is above all things essential we learn to appreciate these relations; the suggestions of theory will be thus schooled by the realities of experience; and the mind, led beyond the contemplation of mechanical to vital influences, will learn to ignore much of what abstract reasoning on material changes might have premised. "Hypotheses,"

Sydenham writes, " owe their origin to ostentatious vanity and idle curiosity, whence it is easy to conceive how much they must needs obstruct the improvement of physic, which is a science that depends chiefly on well-conducted experiment and close and faithful observation." Has not time but more truly confirmed this remark? Read nosological descriptions of a disease, and nothing appears more simple than its recognition, yet, absolve the mind from every preconception, and then closely study the progress of morbid action,—see alterations of structure without appreciable functional derangement,—observe functional derangement, frequently inexplicable on other supposition than the exercise of innate power by the material instrument,—and must not the great truth, whose value will be proportionate to the largeness of our conception of it, forcibly impress those who philosophically study? Medicine is a science of observation, whose principles rest neither in the adoption of those laws which regulate the changes of matter, nor yet, in the recognition of those phenomena which indicate the operations of life, but, in our appreciation of their mutual co-operation, and reciprocal relations; and, consequently, though we are enabled to speak definitely of one, yet, as we have no means of accurately estimating the other, to expect that uniformity in results which we admit as being wanting in their causes, or to infer from the mere presence of those results the particular nature of those causes, would be to adopt a process of reasoning altogether fallacious.

The elementary teacher of medicine can only propound those principles which have been deduced from admitted or demonstrable truths. He can at best but prepare the student's mind for that self-education to be acquired at the bedside of the sick, since, by informing him how, and what to observe, the path to knowledge is thereby divested of much of its difficulty and seeming obscurity. When, however, proceeding further, theory and practice join hands, the duties of the instructor take a much wider and loftier range, for in analytically treating so vast a science, beside establishing those principles and demonstrating those truths which form its basis, it is requisite he also expound the method of deducing from those principles and truths such general rules as may be subservient to others for the purposes of investigation;—while in order to prove the value to be attached to those rules or truths, it further behoves him to illustrate their application to particular examples: which preargues such a familiarity with disease as enables it to be determined in any individual case, how far coincident manifestations modify each other, and in what respect affections essentially

identical differ in their ultimate effects. Hence it is that clinical lectures must be ever regarded as the most valuable additions to medical literature, and at the same time the severest test of the physician's capability.

We have deemed it advisable to isolate such of Professor Bennett's Clinical Lectures as treat of thoracic disease, for the purpose of embracing them in our consideration of Dr. Hughes' recent work, inasmuch as we are satisfied that in the comparison of coincident writings the duty of the reviewer is often as fully accomplished as by the expression of critical opinions; while the relative value of the doctrines the works expound is thereby not unfrequently truly demonstrated. Dr. Hughes has, we are of opinion, offered to the profession a book of no ordinary value, even though wanting the charm of great originality: minute without being wearisome, comprehensive without proving prolix, every page bears the impress of the author's thorough appreciation of the subject he has undertaken to treat, with an anxious capability of fully and clearly imparting his knowledge. Written up, we might almost add, "*ad nauseam*," we scarcely believed a new work on auscultation should have proved such an acceptable addition to our existing literature, as that which, the preface informs us, Dr. Hughes has at length yielded to the urgency of professors and pupils. Whether we would be warranted in applying the same terms of commendation to the labours of Professor Bennett is an inquiry whose answer we will for the present defer; but, proceeding to lay before our readers an analysis of both works, we shall in our passing observations endeavour to afford them the fullest grounds for questioning our opinions respecting the first, and of forming their own judgment in reference to the second.

Dr. Hughes enters on the consideration of his subject by impressing pupils with the necessity of diligent and patient study in the hospital wards, where they can alone hope to educate their senses sufficiently to attain either dexterity or confidence in practice. He then proceeds to offer such cautions for the guidance of the conduct and demeanour of the examiner as we heartily approve of, among which he observes:—

> "With the view of not exciting alarm in the mind of nervous individuals, all unnecessary display of stethoscope and pleximeter, and parade of every kind, should be avoided, otherwise some undefined notion of an operation may be induced, and the patient may become unwilling or unable to submit to the ordeal."

Proceeding further, we find it laid down as a principle whose propriety cannot be doubted—

"In all examinations the benefit of the person examined should be the primary consideration."

The student of auscultation is impressed with the necessity of a certain acquaintance with the elementary sciences of his profession, conjoined with a general knowledge of the ordinary symptoms and results of morbid processes, without which, he must be unable to appreciate various changes of structure, or rightly estimate the knowledge derivable from the previous history and general or constitutional symptoms, whose relation to the physical signs affords the only safe grounds for practical deductions.

Dr. Hughes next proceeds to point out the method to be followed in auscultatory examinations, and, to assist the student, proposes such a division of the chest into regions or compartments as will enable him to render his previous knowledge available for recognising healthy sounds, and marking with accuracy the site of any lesion. Having particularized the different modes of exploration to be adopted in diseases of the chest for the determining *of physical signs*, in contradistinction to *rational symptoms*, he proposes to treat of them under the following heads:—Inspection, Palpation, Percussion, Auscultation, Mensuration, and Succussion.

Professor Bennett's preliminary remarks on the examination of the patient, taking a much wider range, equally demand our notice and approval. Advocating most justly method as well as accuracy in the inquiry, he proposes to his class the adoption of a plan which he had learnt when a clinical student in the wards of Professor Rostan, of Paris, its object being—

"To arrive as quickly as possible at a knowledge of the existing condition of the patient, in a way that will insure the examiner that no important organ has been overlooked or escaped notice."

This plan, being calculated for general clinical researches, proposes a scrutiny of the circulatory, respiratory, nervous, digestive, genito-urinary, and integumentary systems, with the antecedent history, for the arriving at an accurate knowledge of his condition during life; while, for the carrying out of post-mortem examinations, we are afforded such hints as, if attended to, could not fail to render us thoroughly acquainted with even the minutest morbid change.

So far, both authors are excellent in their suggestions: as, however, we proceed, we shall find that such unanimity is by no means maintained.

Dr. Hughes' second lecture treats of "the method to be pursued, and circumstances to be noticed, on inspecting the chest,"

as well as "the indications afforded by inspection." That inspection of the thorax is of great value as an aid to the formation of our opinion must be at once evident, since by it we are enabled to appreciate visible departures from the harmonious action indicative of health, or deviations from the normal configuration; as also, to compare the diseased and healthy side; while in some instances, we can, moreover, infer from the external appearance the nature of those internal causes giving rise to particular changes. The character of the respiratory movements in pleuritic inflammations—the almost passive condition of the ribs and the peculiar nature of the thoracic enlargement in emphysema—the widening and polished appearance of the intercostal spaces, with their elevation, which, generally speaking, may be regarded as evidence of empyema—the irregularities of surface, together with the condition of the capillary vessels witnessed in malignant disease—the flattening of the chest in phthisis—the existence of tumours or visible pulsations—together with the recognition of acquired or congenital malformations,—are enumerated by Dr. Hughes as some out of the many causes which render it essential that "in every primary examination, and, indeed, in all examinations in which an opinion is expected to be delivered as to the condition of the internal organs, Inspection should never be omitted," whose institution, if delicately managed, we agree with the author, "may be perfected without offence to the most fastidious."

The mode and advantages of employing Palpation, with the indications it affords, are discussed by Dr. Hughes in his third chapter. Its assistance to diagnosis in determining the relative mobility of the different sides; the absence or presence of vocal vibrations; in detecting frictions; in ascertaining the positions and estimating the movements of organs; in recognising tumours; in diagnosing between fluid and solid enlargements; in estimating the force, extent, and character of pulsations,—are each portrayed in a clear and practical manner.

On neither of these modes of investigation, their necessity or advantage, has Professor Bennett, in his minute directions respecting the examination of the patient, expressed an opinion.

The important subject of "Percussion, or examination by striking," occupies Dr. Hughes' fourth chapter. It is scarcely requisite to quote observations confirmatory of its value, inasmuch as we believe it is universally admitted. Having detailed the advantages to be derived from, and the precautions to be taken in, instituting immediate percussion, and stated those objections which exist to its general application, Dr.

Hughes proceeds to the consideration of mediate percussion. To the method to be followed, and cautions to be borne in mind, with the general directions this chapter contains, we freely accord our fullest approval. Percussion in the normal state of the chest, as indicating the natural resonance of its different regions; the information it affords in diseases of the lungs and bronchi, in diseases of the pleura, in diseases of the heart and pericardium, in aneurism of the large vessels, and abscesses or other diseases of the mediastinum, is distinctly treated of and fully described; the inconstant and variable nature of the sounds percussion elicits in those different affections minutely set forth; and the causes which may modify their development at the same time detailed.

Professor Bennett has devoted a section of his clinique specially to this subject; we shall, therefore, pause to contrast the observations of the two writers. Professor Bennett being silent in reference to Immediate, passes at once to the consideration of "Mediate, percussion;" and advocates, for this purpose, the use of the ivory pleximeter of M. Piorry, as modified by M. Malliot, in conjunction with the hammer of Dr. Winterich, of Wurzburgh. We have already given expression to Dr. Hughes' suggestions respecting the employment of these instruments. The advantages Professor Bennett attributes to their use are ranged by him under three heads, viz.:—

"1st. That the tone produced, in its clearness, penetrativeness, and quality, far surpasses that which the most practised percussor is able to occasion by other means. 2nd. It is especially useful in clinical instruction, as the most distant student is enabled to distinguish the varieties of tone with the greatest ease. 3rd. It at once enables those to percuss who, from peculiar formation of the fingers, want of opportunity, time, practice, &c., are deficient in the necessary dexterity."

Dr. Hughes seems to be sadly blind to those many merits, for he, when fairly estimating the advantages of such instruments, objects to their employment on many grounds, one, amongst others, being that—

"Each participates more or less in the objection, of itself giving rise, when struck, to a sound which interferes with that dependent on the vibration of the thoracic parietes."

Again we read,—

"The very best *pleximeter* is produced by one of the fingers of the left hand, and the very best *percussor* is produced by the ap-

pressed fingers of the right hand. They possess the advantages of all others, and some which are peculiarly their own."

Contrasting this with the first of Professor Bennett's propositions, have we not a complete antagonism in the views of the two writers? Of which are we to approve? We believe the recommendations and objections of Dr. Hughes are impartial and scientifically correct; they are as follows, when speaking of the use of the finger as a *plexímeter:*—

"It is not open to the objection of sometimes causing pain by firm pressure upon fat or thin persons, as are the wood or ivory discs which are occasionally employed. It is capable of being much more nicely adjusted to uneven surfaces than either those rigid substances, or stiff leather, and can be much more easily maintained in the required situation than flexible but elastic India rubber. In thin persons the intercostal spaces form hollows which cannot be filled by unyielding plexímeters; air constantly intervenes between them and the parietes, and by its resonance, when the plexímeter is struck, modifies the sound dependent on the vibrations of the instrument itself, and thereby adds to the sources of fallacy thence arising. The stiff plexímeters, moreover, cannot be conveniently applied in the axillæ, or, in very thin persons, above or immediately below the clavicles. The firm pressure of the fingers, on the contrary, causes no pain; they are capable of being perfectly adapted to the surface of the chest however uneven; they are therefore equally efficient as plexímeters in fat and thin persons; they can be applied in the hollow of the intercostal spaces; they can be employed in every part of the chest; when struck they give rise to very little independent sound, and they are always at hand ready for use."

On this point, without much apprehension, we leave the decision to the common sense as well as to the experience of our readers. Next then in reference to Professor Bennett's second reason, "It is especially useful in clinical instruction, as the most distant student is enabled to distinguish the varieties of tone with the greatest ease," we would ask, is the patient benefited, or the most distant student in reality instructed by such hammering for knowledge? The one, we believe, may be rendered both nervous and excited; and the other, far from being advantaged, gains, at least, but an imperfect estimate of the truth; while, again, in many cases, we believe, with Dr. Hughes, that this loudness of sound is anything but desirable or truthworthy, since, in some instances, "a gentle tap will often display a marked difference in the two sides, when a strong blow will be utterly inoperative for the purpose." The reasons included under the third head are so futile, that they are positively unworthy serious consi-

deration, if advanced as scientific objections;—such a peculiar formation of fingers as Professor Bennett has twice met with, we imagine may exist about once in a thousand students. We deny that knowledge worth anything can, as Professor Bennett would lead us to believe, be acquired intuitively from the use of such instruments by those who, "from want of opportunity, time, practice, &c."—(in the "&c." we presume Professor Bennett includes all else essential to such information)—"are deficient in the necessary dexterity;"—since it is this necessary dexterity which lends either value or credit to the sounds elicited; and it is this opportunity, and the experience it affords, which alone enables those sounds to be properly distinguished or rightly estimated.

Professor Bennett, having thus satisfactorily settled the advantages offered by his favourite instruments, proceeds to notice the different sounds produced by percussion. The nine elementary sounds of M Piorry are by him embraced in three divisions, viz.:—the tympanitic, the humoral, and the parenchymatous, according as they proceed from the organs containing air or fluid, or the tones being formed of a dense uniform parenchymatous tissue throughout.

"The sense of resistance," writes Professor Bennett, "should be as much educated by the physician as the sense of hearing, and it would be difficult for an individual practised in the art of percussion to say which of these two points is the more valuable to him. Both are only to be learnt by practice, and considering it perfectly useless to describe that in words which may be learnt in half an hour by the use of the pleximeter and hammer on a dead body or the living subject," &c. &c.

Hear, in reply, what Dr. Hughes thinks:

"The practice of this mode of exploration, apparently so simple, requires great nicety, tact, and delicacy, and considerable experience for its efficient application, &c. &c."

It appears to us, that, according to Professor Bennett, it is a matter of no moment whether the student learn to percuss, or to estimate the sense of resistance, on the dead or living subject. Now, we consider it makes all the difference conceivable. We are satisfied it is both unsafe and untrue to promulgate the doctrine, that familiarity with disease can be so easily acquired, since vague and unsatisfactory results must ever follow hasty and imperfect generalization. Much time and anxious bedside study, with patient self-teaching, can alone impart that capability deserving confidence. The sense of touch must be educated; its powers of appreciation refined;

its useful capacity developed, if not formed, before those fine differences in tone or quality associated with the sensations conveyed on percussion or palpation, can be truly estimated. We do not hesitate to say, no half-hour's teaching could give this. If Professor Bennett, by these observations, means to convey that pupils, by such a prolonged investigation, may satisfy themselves of the fact universally known, and, we believe, generally admitted, that, proportionate to the volume and density of the body struck is the tone elicited from it, or the resistance afforded by it, we decidedly assent, that five minutes, aye, even one minute, would be sufficient for such a purpose: but we have no hesitation in declaring, that the useful application of such knowledge for the examination of disease demands its continued and careful exercise on the living body, where the capability of estimating vital forces can alone be acquired.

We seek not to deny that examinations may, in certain exceptional causes, be facilitated by the employment of the ivory pleximeter; but our views respecting its general adoption coincide with those Dr. Hughes so justly advocates. We conceive that, on scientific grounds, the use of the finger is to be preferred, since by it we are enabled, while estimating the difference in sound, to also judge of the character of the resistance and different degrees of resiliency in the organs examined. We believe, however skilfully employed, the pleximeter, for such a purpose, would never equally respond to our expectations. We cannot, therefore, avoid expressing our opinion, that in his advocacy of his favourite instrument, Professor Bennett has manifested an exclusiveness which the experience of Dr. Hughes, and that of many very distinguished European teachers, by no means corroborate.

In his fifth chapter, we are brought by Dr. Hughes to the study of auscultation. Professor Bennett has also given a section specially to the same. The subject is so extensive, and embraces so many points of interest, that to attempt doing full justice to all Dr. Hughes' observations would require a closer analysis than our space could at present admit; we shall, however, while being of necessity brief, endeavour to present our readers with a few, that they may anticipate the many excellent practical remarks the perusal of this work will afford.

Premising that the direct application of the ear to the surface is not only fully as effective as mediate auscultation in some, and that in many cases, it is even more so, directions are given respecting its employment; while the study of me-

diate auscultation, being that demanding the greater attention, to it Dr. Hughes' chief remarks are directed.

The several varieties of stethoscopes which have been proposed, and the principles which are considered to regulate their efficiency, are fully set forth,—the instrument Dr. Hughes most approves of being that formed of wood such as is ordinarily in use. Having detailed the various forms of this instrument, we read—"The form of the instrument is of very trivial importance; and that the best stethoscope for any individual is clearly that with which he can hear best—which, by experience, he finds best suited to his ear." Professor Bennett advocates the employment of those made of gutta percha. Speaking from our own experience, and reasoning on the method in which the sound is propagated, we may state that we gladly abandoned the use of instruments formed from that material; and we do not believe, that even in the most experienced hands they will ever fulfil the purposes for which they are designed, equally well as those Dr. Hughes recommends.

In their directions respecting the mode of using the stethoscope, Dr. Hughes and Professor Bennett are equally explicit. In very thin patients Dr. Hughes advocates the intervention of a pad of soft linen between the surface of the thorax and bell of the instrument, or to disregard the stethoscope and use the ear. Attention is also directed to the liability which exists to confound the creak produced by pressing the bell of the instrument on an œdematous surface, with sounds either originating in the lung, or dependent on conditions of the pleura.

In his observations on natural respiration, the different characters of the sounds in various situations and regions of the chest are enumerated, and the causes which may modify those natural phenomena particularized. Alluding to the indications from the voice, the difference between perfect and imperfect pectoriloquy is set forth, and both contrasted with bronchophony, while the causes which may modify and assimilate these tones are, we conceive, justly reasoned on. We pass many valuable observations on the character of the dry sounds in diseases of the larynx and trachea, and affections of the bronchial tubes, to pause on the author's remarks in reference to the nature of the respiratory sounds in emphysema. Dr. Hughes regards the prolongation of the respiratory murmur to depend partly on the diminished elasticity of the ribs, consequent on long-continued pressure exerted on them by the

enlarged lungs from within, and partly from the inability of the compressed air within the lung to escape through the absolutely or comparatively contracted bronchial tubes, with a rapidity equal to that with which the ribs descend. In his observations respecting the respiratory phenomena in phthisis, the true value of tubular, amphoric, and fistular breathing is canvassed. Metallic respiration being nearly allied to the two last, the difference of their causes is investigated and described by Dr. Hughes to be as follows:—

"The difference of the fistulous and the amphoric respiration depends upon the size and form of the opening leading into the cavity of the lung or pleura; that the opening is small or obstructed when the former, and comparatively large when the latter sound is heard, and therefore the amphoric respiration may become fistulous by the tube through which the air gains admission into the free space becoming obstructed with secretion, or being diminished in its caliber from any other cause, and that fistulous may be converted into amphoric breathing by the removal of such obstruction, or by the tube from other causes becoming enlarged. I conceive also that the metallic ringing of the respiration is dependent rather upon the nature of the walls of the cavity itself than upon the form or size of the opening leading to it, and that it is from the vibration of these walls being communicated to the air contained within them that the peculiarity of the tone arises."

In his notice of the auscultatory phenomena, indicative of affections of the pleura, amongst other practical observations we find the occurrence of tubular breathing and shrill vocal resonance coexisting with a pleura full of fluid. This apparent anomaly Dr. Hughes explains by the supposition that, admitting the pressure of the fluid is not sufficient to wholly compress the larger bronchial tubes,—

"The vibration of these tubes is communicated to the spine, or to the bony parietes, against which they rest, and thence, as in a well-braced drum, to the walls of the entire cavity,—the fluid being so pressed that it moves as a solid, and conveys the vibrations of sound tightly as a solid to, and with, the solid walls."

The moist sounds in diseases of the air-passages are next passed in review. We shall rest satisfied with observing that Dr. Hughes, in his reasoning on the nature of those purely physical conditions adequate to their production, fully establishes the variety of circumstances which may occasion their presence, and perfectly negatives the supposition of any necessary association between the various physical conditions adequate to their production and the existence of a particular

constitutional state. Professor Bennett offers to his class "a condensed resume" of those sounds. It most assuredly is as condensed as it possibly could be. It may be the very essence of knowledge, small in volume but great in strength, yet to us the information appears to have been dealt with rather a sparing hand, since this "condensed resume," though sufficient to direct the learner in the few particular cases subsequently detailed, would scarcely enable him to undertake observations of his own. It is, however, satisfactory to know, that both these writers coincide in their conclusions, for while Dr. Hughes declares "physical signs are indicative only of certain physical conditions, and not of particular diseases," Professor Bennett adds: "The different sounds are only indicative of certain physical conditions of the lung, and in themselves bear no fixed relation to the so-called diseases of systematic writers."

Auscultation of the heart next receives Dr. Hughes' attention:—The healthy character of its impulse, rhythm, and sounds, with the natural range of these phenomena, are separately noted, as also the peculiarity of the several modifications they undergo in disease. The varieties of murmur and the different nature of the causes capable of producing them, together with the grounds on which the diagnosis of exocardial and endocardial sounds rest, receive from Dr. Hughes the same close and impartial attention. Professor Bennett briefly alludes to these phenomena, and concludes his observations by the very practical observation—"Their true diagnostic value can only be learned by the careful examination of individual cases."

Dr. Hughes, in his sixth and seventh chapters, discusses the advantages of mensuration and succussion. Under the first, the assistance to be derived from the employment of the spirometer, chest measurer, and stethometer, are thus set forth:—"I cannot help expressing my belief that to the practical physician at the bedside, they are but imperfect substitutes for experience in the investigation of the nature of existing disease; that, even to those familiar with their use, they are as crutches to the feeble, which should be discarded as he gains strength; and that, to the vigorous and active, they are but as clogs and impediments to his free action and progress." Professor Bennett thinks otherwise, for he advocates their employment, and declares that the extent of the thoracic expansion "is now capable of being accurately determined by the chest measurer of Dr. Sibson, or the stethometer of Dr. R. Quain; and adds, in reference to Dr. Sibson's chest measurer:—"My own experience of this mode of investigation has hitherto been too limited to enable me to speak confidently with regard to the value of

his method in diagnosis." The spirometer introduced by Dr. Hutchinson stands in a less fortunate position, for of it we read:—"As a means of diagnosis, I have never been able to satisfy myself of its utility." For our own part we have already expressed our opinions on the value of these instruments in some late Numbers of our Journal, and they altogether coincide with those of Dr. Hughes.

The extent to which our examination of Dr. Hughes' work has insensibly reached urges us to conclude—we will not say our labours, for to read a good book comes not within such a term, but—our imperfect analysis. Embodying the existing state of our knowledge, and alike free from dogmatism or assumption, we recognise in its precepts the efforts of a practical physician, fully competent, and equally anxious, to forward science by dispassionately discussing truth. From the days of Laennec downwards, authors have vied with each other in adding to the certainty of our means of physical diagnosis. We might, with the greatest confidence, refer to the pages of this Journal, and quote many original observations which have so well contributed to dissipate the obscurity, unravel the intricacy, and establish the efficacy of symptoms, physical signs, and treatment. We are not, however, called upon to do so; yet we may be permitted to observe that, nearly twenty years ago, Dr. William Stokes thus wrote[a]: "It is never to be forgotten that, although in these various classes we have a vast number of well-marked and essentially different physical phenomena, there is not one of them which, taken singly, can be considered as a pathognomonic sign. Nay, we might go further, and declare that *no possible combination of them can be considered absolutely pathognomonic.*" Our knowledge of disease since then has certainly made some progress, and it cannot, therefore, be denied, that no greater tribute could be paid to this physician's fidelity than that, after the lapse of such a time, an observer of Professor Bennett's great originality and vast opportunities should confirm the same by declaring: "No single acoustic sign, or combination of signs, is invariably pathognomonic of any certain pathological state; and conversely, there is no pathological state which is invariably accompanied by any series of physical signs."

The first of Professor Bennett's Clinical Lectures which we shall notice separately is that on bronchitis. In his preliminary observations we read:—

"It may be well, before proceeding to comment on individual

[a] Stokes, Diseases of the Chest, p. 15.

diseases of the lungs, to state shortly the diagnostic general rules which have resulted from previous accurate investigations into their physical signs and morbid anatomy."

Those general rules are accordingly set forward in nine propositions, associating certain physical signs with particular conditions, as a guide to diagnosis; which signs, Dr. Hughes' observations and our own experience attest, may or may not indicate the conditions to which, in these propositions, they have been assigned. Professor Bennett admits as much, and rightly impresses the necessity of their observation being combined with the study of the concomitant symptoms. Certainly, between M. Piorry's ivory pleximeter, as modified by M. Mailloit,—Dr. Winterich's, of Wurzburgh, hammer,—Dr. Sibson's chest measurer,—Dr. R. Quain's stethometer, in addition to the gutta percha stethoscope and other means,—it is determined to leave nothing untried which may appear to guide or assist the formation of an opinion. The following case cannot, however, be received as a very flattering illustration of the results which have followed on such a formidable array of means to an end. We shall quote it at length, as a full, true, and particular account of the history, physical signs, symptoms, progress, and treatment, in a selected example of a highly dangerous though by no means uncommon disease.

"Case I. *Acute Bronchitis. History.*—Catherine Mulvie, aged 21, a servant, admitted into the clinical ward, July 21, 1851. She states, that two weeks ago, when in a state of perspiration, she took a bath in the open sea. The same evening she was attacked with rigors and other febrile symptoms; and on the next day there was dry cough, difficulty of breathing, and a sense of oppression in the chest. The cough has continued since, with more or less expectoration, but the febrile symptoms have abated.

"*Pulmonary Signs.*—On percussion, there is no dulness anywhere. On auscultation, there is harshness of the inspiratory murmur anteriorly; and posteriorly and inferiorly, on the same side, coarse crepitation.

"*Concomitant Symptoms.*—There is frequent cough, with slight muco-purulent expectoration; general debility; headach; soreness in the limbs; occasional palpitations of the heart, the sounds of which organ, however, are healthy. Pulse 62, full. Digestive and genito-urinary systems normal.

"*Progress of the Case.*—Under the use of antimonials with opiates, followed by expectorants, the pulmonary symptoms rapidly diminished. On the 25th, the respiratory murmurs on the right side were healthy, and she was dismissed."

The second case is an illustration of chronic bronchitis,

where death occurred from the supervention of acute peritonitis. Its particulars are given with equal perspicuity and brevity.

The third case, headed "*Chronic Bronchitis; Emphysema; Acute Laryngitis*," has, as its chief attraction in the fact, that, for the cure of the laryngitis, the local application of a strong solution of the nitrate of silver was successfully employed.

In the clinical observations on these cases, we are informed: the first was evidently an uncomplicated case of acute bronchitis, which had nearly run its course before admission,—that acute bronchitis may be epidemic, and constitute what is called *influenza*,—that it may follow or precede a similar lesion in the lining membrane of the nasal passages, that is, *coryza*,—that frequent attacks of an acute nature frequently eventuate in emphysema,—that "bronchitis, therefore, is an affection which the judicious practitioner will do all in his power to check and prevent." The treatment for this formidable disease we shall give in the Professor's words:—

"To check the progress of an acute bronchitis or coryza, no remedy seems so good as taking a full dose of morphia on the first, or, at the latest, second night on going to bed. In the morning, the patient should breakfast in bed, and keep himself warm at home during the next day. . . . Should, unfortunately, the disease progress, patience is, perhaps, the best remedy. But, if the bronchi become clogged, sudorifics and expectorants, especially ipecacuanha, will be useful; and a blister will sometimes dissipate any lingering trace of the disease."

In the second case, in which there was strong presumptive evidence that ventral or intestinal ulceration existed, the chief information we get of the treatment is contained in the following extract:—

"Her principal complaint, however, was the epigastric pain, which, notwithstanding the application of leeches, warm fomentations, opiates, and counter-irritants, continued to increase."

The third case, being scarcely more explicit, calls for no particular observation. We have sought in vain for even the faintest claim to commendation in these remarks, alike deficient in novelty or profundity. In treating of such a disease in an elementary manner, to have noticed each of its important bearings might have been impossible;—is, however, the omission of them altogether excusable? We confess our utter inability to discover from these remarks in what respect they have advanced our knowledge on that affection to which they allude, but of which they can scarcely be said to treat. If a

work in medicine can have one fault, which more closely than another approximates the inculcation of error, it is the imperfect teaching of truth. Of this latter, we may now most justly complain, and if we do not accuse the author of the former, it is not that we by any means consent to his problematical doctrines, but because we freely accord to him the same freedom in the warm advocacy of his favourite views, so long as they do not endanger life, as we reserve to ourselves in the expression of our critical opinions.

Professor Bennett's clinical observations on pneumonia next demand our scrutiny. The examples enumerated are of such a character as abound in the wards of every hospital and the case-books of most students, while the observations in reference to them are few and meagre. The occasional difficulties which arise in the diagnosis of pneumonia are illustrated by cases in which the nature of the complication preoccupied the attention and masked the symptoms indicative of that disease. In his objections to the old practice of bleeding Professor Bennett but reiterates what the late Professor Graves[a] laid down when he wrote—"I may be permitted to express my doubts whether pneumonia be a disease which demands the heroic use of the lancet," at the same time that he pointed out those cases in which venesection might be useful, and the method in which it should be performed. Dr. Stokes, in his work on Diseases of of the Chest, had also expressed similar opinions. Professor Bennett thus writes:—

"I place my chief reliance in the treatment of pneumonia, when hepatization has taken place, on the combined use of tartar emetic and opium, in large and frequently repeated doses."

While further we read—

"I have never yet been able to satisfy myself, that calomel favours the absorption of the exudation in cases of pneumonia; but, from the very confident manner in which this remedy is employed by practitioners of great experience, it would be presumption in me to oppose its employment. On the contrary, whenever the exudation does not disappear in the usual and natural manner, I would recommend its use, although I am inclined to think, that, if the disease be properly managed from the beginning, such cases will be rare."

Whether are we to regard this avowal as a striking instance of magnanimity or weakness of mind, where human life is the stake to be lost or won? Professor Bennett does not believe

[a] Graves' Clinical Medicine, by Neligan, vol. ii. p. 42.

calomel favours the absorption of the exudation in pneumonia, and yet he recommends it for such a purpose,—he has no confidence whatsoever in its exhibition, and yet he countenances its use. It is a happy thing for the recovery of his patients the Professor has in his complacency such a safety-valve for his infidelity that he is thus occasionally induced to fire at random, not knowing where a chance shot may hit. Has not Professor Bennett met with cases in which the antimonial treatment was altogether inadmissible? In cases of typhoid pneumonia, of which Dr. Stokes[a] thus writes, when contrasting the treatment by tartar emetic with that by mercury:—"The mercurial treatment is to be preferred from its greater safety, and in this disease, more than equal efficacy." "The longer pneumonia has lasted"—observes Professor Graves—"the less likely we are to derive benefit from tartar emetic, and, consequently, in most of the cases which are accompanied by decided hepatization, you observe that we prefer moderate but repeated doses of calomel, until the mouth is distinctly but not severely affected." To this we might add the following remark from the same authority in reference to the efficiency of this remedy:—"Now I believe every practical man is aware that mercury is one of the best remedies we can employ in many cases of acute and subacute bronchitis." Opinions such as these, and of many others of high distinction, are not to be thought lightly of. Professor Bennett's humility is not without its consolation, for, most assuredly, if in the administration of such a remedy he errs, he does so in the best possible company.

We are happily not again required to express our opinions respecting the author's Protean Lectures on 'Pulmonary Tuberculosis.' We have already in our last Number done so fully, and accorded to them that merit which a just regard for truth would permit; they are here presented to us in a much more limited form, and on their reperusal we see no just reason to revoke that judgment, to it we accordingly refer. We shall not for the present proceed further with our critical analysis of this work, but reserve for a future occasion our review of the separate cases therein recorded, as also of the chapter devoted to diseases of the heart. In conclusion, we may observe, it is ever to us a most ungrateful task to lightly estimate the labours of another:—could we on the present occasion have followed the dictates of mere personal inclination, we should have permitted Professor Bennett's clinique to pass with a brief notice, for we cannot but regret that from such vast opportunities something

[a] *Op. cit.*, p. 344.

more worthy has not sprung. Great positions entail equal responsibilities. The Professor of the Institutes of Medicine and of Clinical Medicine in the University of Edinburgh being for the time identified with the world-wide renown of its School, stands forth in that light which many illustrious names reflect. The honour and reputation they have founded being intrusted to his anxious guardianship and fostering care, it behoves *him* more especially to rightly estimate that treasure it is his privilege to hold. From his clinical lectures is the profession to infer the tone and status of medical science as it exists in the University he represents. Every observation from an author occupying such a position carries in consequence a certain weight, being armed, as it were, with the authority of office; when therefore we are presented with the matured results of his continued observation, we are fully warranted in expecting something more than a few every-day accounts of disease, accompanied by such criticisms as those we have noticed, whose chief recommendation rests in their being within the comprehension of the most limited capacity. Contrast his lectures which we have reviewed with others on the same subject which have within the last few years emanated from the English, Continental, American, and Irish schools, and must it not at once be conceded, the information herein afforded is but as a drop in the great ocean of their truth?

Anteckningar om de fornämsta Medicinska Skolorna uti Italien, Frankrike, Holland, och England. Af Prof. C. Santesson. Hygiea, August and September, 1853. Stockholm: C. E. Fritze.

Sketches of the principal Medical Schools in Italy, France, Holland, and England. By Professor Carl Santesson.

We hasten to fulfil the promise made in our last Number by giving a brief survey of the concluding portions of Professor Santesson's description of his medical tour. As we mentioned in our former notice, the numbers of the Hygiea we received while it was passing through the press contain the Professor's account of the medical schools of England, and of his visits to Scotland and Ireland.

The first in point both of antiquity and size of the medical schools of London is that attached under the denomination of "St. Bartholomew's College" to the hospital of the same name, the oldest institution in the English metropolis for the care of

the sick poor. Into the history and description of these establishments the author enters at length, tracing the gradual development of the complete medical school at present existing therein; but, as information on these points is easily accessible to our readers, we shall with more profit pass to the consideration of his general remarks. The following comparison of the working of the voluntary system, if we may so term it, which obtains in England, with the effects of the State provision made in Sweden for medical instruction, appears to us worthy of being quoted:—

"It thus appears that the course of medical education in England is expensive, and it seems particularly so to us who are accustomed to get all instruction of that kind almost for nothing, for the fees for dissection and practical chemistry in this country are so small that they scarcely deserve mention. The cause of this is, evidently, that in Sweden the State supports the schools, while those in England are, as private institutions, self-supporting; in other words, they are dependent on the fees paid by the pupils. But if it is thus considerably more expensive to pass through the medical course of instruction in England, medical practice, generally speaking, yields a proportionably greater income in that country than with us. The financial difference is thus in a great measure balanced, but a circumstance which most nearly concerns the schools deserves to be alluded to in connexion with this point, at least, in my opinion, it gives English medical teaching an advantage over ours, in which there is nothing of the kind. The circumstance I allude to is, that as in England the existence and stability of the schools depend, principally, on the fees received from the pupils, it must be the teachers' interest to use their utmost exertions to make the instruction as good and complete as possible, and thus to attract a great number of students to themselves. Hence arises a constant stimulus to labour zealously and indefatigably in science and for the maintenance of the school, an impulse which does not exist among us, and the want of which is not unfrequently attended with evident and serious consequences. A school in England in which one or more of the teachers should show indolence, indifference, or negligence in the discharge of their duties, must inevitably fail for want of pupils and consequent want of income. In Sweden, a teacher may, when he has once secured his office and his pay, take the matter as quietly and coolly as he pleases; he may do much, or little, or nothing; he may have the largest audience, or no hearers; he may slumber soundly enough without fear of being awoke or disturbed by the superin-

tendent committee; in any case he has his given reward, neither more nor less. It is true, we might suppose that the teachers' interest in their subject should be, at least with most of them, strong enough to prevent these evil consequences; but still the possibility of the contrary is admitted, and the reality is near enough at hand,—at least where youthful and warm zeal have disappeared with years, cares have accumulated, and oftentimes economic troubles compel the father of a family to devote his time and his abilities chiefly to a very different subject from that or those in which he is a teacher. We must not always judge so harshly, but we may always assert without injustice that the students and the teaching are what suffer earliest and most from such circumstances. Besides, matters can never be otherwise in a land where instruction is privileged and limited to a few public schools authorized by the Government. In England, the Government has left instruction itself free, but has retained the final right of trial, which it exercises by certain public boards of examiners,—an arrangement which seems to be the most natural, and, at the same time, the most advantageous."

The author, having passed in review the several medical schools in London, whether directly attached to an hospital or not, observes, that the most striking points connected with medical education in the United Kingdom are, the great number of licensing bodies, and the want of uniformity in medical instruction required by them. He also remarks, as a most singular inconsistency, that individuals who hold the same qualification from the same corporation should not have the same privileges, as is the case with the licentiates and extra-licentiates of the College of Physicians of London; and that the graduates of Oxford and Cambridge have no right to practise in the metropolis or within seven miles thereof, while they are entitled to do so beyond that circuit. He also points out a great defect which exists in the non-requirement by some of the corporations of proof of preliminary general education, "Studia, quæ si non faciant medicum, aptiorem tamen medicinæ faciunt"—a department in which, he says, his fatherland is not deficient, as the preparatory examination required there might, on the contrary, serve as an example, and would be perfect were some addition made to it in the physical sciences; in other respects, he observes, it appears, if properly carried out, well adapted to answer its purpose.

"Another fault which has been found with the English system of examination is, that although it is received as a principle that teachers cannot be examiners except in subjects

distinct from that they lecture on, it nevertheless has happened that many members of the examining board have become, from age, indolence, or indifference, so stereotyped in their mode of examination and in their questions, that both questions and answers are known beforehand, as in a catechism. This has of late years given rise to a peculiar occupation, previously unknown in England, but much more known and exercised on the Continent, and also with us, and which consists in a person in the quality of private teacher undertaking, for a certain and generally tolerably high fee, to indoctrinate the candidate in a very short time in what he need know in order to answer the questions of such and such examiners, and so be approved, or possibly complimented, on his examination. How inimical to all real study, not to say honour and honesty, this so-called cramming system is, we know, alas! from our own experience. In England, where it has obtained the name of 'the grinding system,' it is more new-fashioned; but it was early exposed, and made the subject of severe disapprobation in numerous articles in the medical journals. It is principally in preparing for the Apothecaries' Hall that this discreditable fact has been observed; and there is reason to believe that the existence of this system, together with various other circumstances, will, probably ere long, give rise to a new and better plan of medical examination, and to the limitation of the excessive number of qualification-giving corporations."

As to the mode of instruction in the various schools, Professor Santesson expresses himself in the following terms:— "I cannot do otherwise than praise and recommend the plan adopted, especially in the so-called colleges, and which I have above more accurately described, as it is carried out at St. Bartholomew's. The daily intercourse between many of the teachers and the pupils, the free access, and ever present opportunity the latter have of asking the advice of and of conversing with the former, meeting them as they do every day, and in many instances several times a day (in the lecture-rooms, the museums, the library, the reading-room, or at the dinner-table), and this in a manner which shows that the teacher is like a father or an elder brother to the class,—kindness, sympathy, and openness on the one side, esteem and confidence on the other,—all contribute to produce a mutual co-operation, as well between teachers and pupils, as between the latter among themselves; a system of reciprocal instruction on a great scale, which cannot do otherwise than exercise a beneficial influence both on their scientific and moral education. The adoption of examinations and oral discussions, not merely at the cliniques,

but likewise in connexion with the public lectures (once every, or every second, week, according to the nature of the subject), I consider to be good, and worthy of imitation. How different is not all this from what we generally find to obtain at most of the continental medical schools, both in France and at many places in Germany! How strange to one another are there, the teachers and the pupils,—the former most frequently neither know the latter by name nor by appearance; have seldom, in some instances never, exchanged a word with them, never addressed them otherwise than in a body and officially from the chair. The pupil sees in the teacher a person with whom he will take care to have as little as possible to do, and from whom, particularly at the examination, he will endeavour to escape as cheaply as he can. If he stand in need of advice or explanation on any subject, the teacher is often the very last he has recourse to, if he applies to him at all. To all this the English schools present the finest and happiest contrast I have found in any country.

"A stranger and guest at such a school in England should recollect not to be precipitate in his judgment on persons and circumstances. It requires time, and often perseverance, to fall in with the ways of both. This is especially true if he present himself without an introduction, and, so to speak, breaks his own way. It is, above all, necessary to be able to use the language with some freedom. In few countries ought a good letter of introduction to be of more value than in England; it saves time, and renders business pleasant. The fact is, that an Englishman, generally speaking, when a stranger addresses him, must see and examine well with whom he has to do, before he pays him closer attention, and, still more, before he shares with him his own knowledge and experience. He is kind, he is ready to oblige, but is always more or less distant, until his visitor has made some little acquaintance with him, and thus shown what he may possess calculated to awaken his sympathy and interest. Yet it is possible for a stranger to work his own way, if he has anything to communicate; but, as I have observed, it requires more time and opportunity for conversation than is necessary to a person provided with a few lines, or even a visiting card, from a friend or acquaintance. Another circumstance which should likewise prevent a stranger from passing a categorical judgment from a first impression (which is not always the most favourable) is, that the plan and mode of communicating instruction he finds here are so unlike what we are accustomed to in other countries, that to many they seem strange and almost school-like. However,

wait a little; see the result, and judge accordingly. What I can say from my own experience is, that the professional instruction in certain of the medical schools in England, and in some of the allied ones in Scotland and Ireland, is the best I have anywhere found."

The author next passes to Scotland, and afterwards to Ireland. His observations on the clinical teaching in Dublin are highly eulogistic, and he speaks in grateful terms of his reception in that city. We think it, however, more becoming, as Irish journalists, to rest content with the extracts we have given from his observations on the medical institutions of Great Britain and Ireland at large, than to quote the flattering testimony he has borne to the labours of the profession in this particular portion of the United Kingdom.

Remarks on the Examination of Recruits, intended for the use of young Medical Officers on entering the Army. By H. H. MASSEY, A.B., M.B., 4th Light Dragoons. London: Churchill. 1854. 8vo, pp. 131.

IN the title-page of this work, Dr. Massey quotes the following words of the Duke of Wellington,—words which should be borne in mind by every medical officer intrusted with the examination of recruits:—

"It must be always remembered," says this illustrious commander, "that the power of the greatest armies depends upon what the individual soldier is capable of doing and bearing." This is, indeed, the point to be regarded, for unless the materiel of which any body is composed be in its integral particles sound and of good quality, put what polish or appearance you will upon the surface, the base will still remain unsound, and unfit for hard work or rough usage. To an army the same may be applied, and here, as the selection or rejection of that base rests with the medical officer himself, the greatest discretion is necessary in passing recruits into the service, and the military surgeon or civilian intrusted with this duty should, before undertaking it, make himself, as far as possible, acquainted with the points essential in the soldier.

"The best instructor," our author observes, "is practical experience, but as this cannot be available for all, the only other source of information is the published experience of others." Dr. Massey has taken up the consideration of this subject at an opportune period, for, judging from the state of Europe at the present moment, we may well infer that we are

beginning a contest which will not soon be over, and if this be so, then the calls upon the country for recruits to fill the vacancies in the ranks, and to augment our army, will be far greater than they have been for many years. We are glad, therefore, that our author has thus devoted his time; and though we cannot say that the style of composition, or the subject matter of the volume, is altogether free from fault, or brought forward as clearly and concisely as they might have been, still we feel pleasure in noticing the work, and introducing it to our readers.

These "Remarks" are intended as a practical commentary on the War Office "Instructions" for the examination of recruits, and, as such, follow the order therein set down, and embrace the consideration, firstly, of the qualifications necessary for the soldier; and secondly, the disabilities which render a man unfitted for the service.

Under the former are included age, physical development, and physical proportion, with general remarks on selection. Under the latter, special affections of the senses, the head, the thorax, the abdomen, and extremities.

We cannot, in a cursory notice of the subject, do more than allude to one or two of these points, and we select those which we deem to be of the most vital importance,—viz., age and development.

As regards the first, we think our author has gone too far in advocating early enlistment. He says—

"As the fatigue of marching was to the infantry soldier one of his most debilitating duties in youth, it was a material objection to early enlistment; the baneful effect of sustaining too early in life the weight and drag of the knapsack on the chest on long marches, is now in a great measure obviated by the very general system of transporting soldiers on home service by railway. Night duty on guard is enumerated as an objection to young men's enlistment, since the enervating effects of want of rest in youth are fully admitted, and always deserve the attention of those who have the power of interference. In time of peace on home service, however, this objection seems over-estimated. Soldiers in some garrisons are occasionally hard worked; but this is, I believe, usually accidental, and is certainly the exception. The improvements in discipline, the judicious restraints, the habits of obedience, cleanliness, and systems, at the present day inculcated, are more readily received and permanently retained in young minds than in those of older growth, which have possibly already acquired habits inconsistent with the duties of a soldier. The much greater prevalence of temperance than formerly has likewise diminished a fearful source of temptation to lads too easily led into the insidious vice of intoxication.

Depression of spirits, or occasionally even recklessness, said at one time to be induced by the hopeless prospect of being bound for twenty-one and twenty-five years' service, has now been relieved by the power of enlistment for shorter periods."

All this is very true, and very good if it applied to the question of enlisting *young men*, or *fully-made men;* but the real point at issue is (when speaking of early recruiting) the question of enlisting *boys*, for, let them call themselves eighteen years of age, or what they will, the majority taken for the infantry are by far too young; and our author, in the passage just quoted, gives too unqualified a preference for such. Subsequently, when speaking of scrofula, he dwells forcibly upon its devastating effects in the army, and this, we feel certain, would not be the case to the same extent, were fewer of these young lads taken. Numbers do not constitute strength. A regiment with 700 well selected is more efficient than another with 750 doubtful men.

Were our author acting for himself, we do not believe he would fall into the same error of passing these boy recruits, for his remarks upon development, which follow, are both sound and good. It is as offering an opinion for the guidance of others who have not yet learned the amount of physical force requisite in the soldier to enable him to withstand the hardships of a military life, that we object.

We would prefer the tyro's being impressed with the following passage as that on which to ground his judgment as to the admission of a recruit:—

"The infantry soldier, from the nature of his employment, comprises a combination of characteristics which must always be recollected as necessary, and not merely desirable: he ought to be compact and strong." "The want of muscular power ought always, without modification, to be a sufficient warrant to cause his rejection."

This muscular power is not found in growing lads. It is a state that will, perchance, show itself, if unrestrained they are permitted to follow the plough for a couple of years, but will be prevented from development by a barrack life.

We must here close our notice of Mr. Massey's book, with the wish that its circulation may be general amongst the young medical officers of the army, as we feel assured they will derive information from its perusal.

Traité de Chimie Pathologique, appliquée à la Médecine pratique. Par M. Alf. Becquerel et M. le Docteur M.-A. Rodier. Paris: Germer Baillière. 1854. 8vo. pp. 608.

That the study of chemical pathology has made very considerable progress even within the last few years, the valuable labours of Simon, L'Heritier, and Lehmann, on the Continent, as well as those of Bence Jones, Golding Bird, Prout, Garrod, and others in this country, afford abundant evidence; yet the field of investigation which the physiological and pathological conditions of the vital fluids lay open to the researches of those disposed to bestow a further amount of labour and industry thereon, appears to promise results of no inconsiderable value to the practical physician. About nine years have elapsed since MM. Becquerel and Rodier published a *brochure* "on the composition of the blood in health and disease," the principal substance of which is now reproduced in the second chapter of the work before us, which treats at very great length of the chemical relations of this important fluid.

The first or introductory chapter is short, and contains an account of the two fluids which concur in the formation of the blood,—namely, lymph and chyle. Of the former, only three analyses are given, and the authors conclude their observations on this part of the subject by candidly avowing that the physiological and pathological history of this fluid, so far at least as it rests on positive physical and chemical data, and not on hypotheses more or less absurd, remains to be made out. Of chyle there is but one analysis,—namely, that made by Dr. Rees, of fluid taken from the thoracic duct of a man recently executed.

Prefixed to the second chapter is an elaborate historical abstract of the various opinions regarding the importance of the blood which have been entertained from the remotest antiquity down to our own time. The first epoch, which embraces a long range of years, is rather the history of the hypotheses which successively swayed the minds of the learned than that of positive researches or accurate observations. These hypotheses, which have experienced almost as many variations as there have been different systems in medicine, have yet in their turn enjoyed great favour; in fact, they constituted the different systems of humorism. "Although long since fallen into just oblivion," say the authors, "we believe we ought not to pass them in complete silence, and we shall try to present a succinct *resumé* of them," &c. The second phase of the history of the blood's alteration comprehends the

earliest positive researches which have been made into the nature of this fluid. These researches are qualitative analyses, and they furnish numerous most interesting documents to physiological and pathological chemistry. The third and last phase comprehends the exposition of the quantitative analysis of the principal elements of the blood. It is only at the date of this epoch that the knowledge of the alterations which the blood undergoes has afforded any real assistance to physiology and pathology, and has cast any valuable light on questions of pathogenic import.

The process which our authors have adopted in their analysis of blood being of a complex nature, they have divided it into three series of operations: the object of the first is to furnish the density of the blood and that of the serum, the weight of the fibrine, globules, and solid matters of the serum collectively. The second series of operations should give the weight of extractive matters and of fatty matter. The third determines the weight of iron and that of the different inorganic, saline, or other principles which are contained in the blood.

The precautions necessary to be observed in each step of the analysis are detailed most minutely, but these, as well as the general description of the operations, do not admit of condensation. We may, however, notice some of the general results.

1. The affinity for water which the proximate principles of blood possess is very considerable, and this fact, in addition to their ready decomposition through an incautious exposure to too elevated a temperature, presents a considerable obstacle to the accurate determination of the albuminous matters contained in the blood; for, should the desiccation have been accomplished ever so effectually and carefully, the dried mass commences at once to reabsorb water from the atmosphere, and therefore should be weighed immediately while yet warm, &c. This deliquescent property the authors are disposed from their experiments to attribute to the presence of alkaline salts, uncombined soda, and soluble extractive matters.

2. When blood, freshly drawn, is not protected from atmospheric contact, a very appreciable quantity of water is vaporized, the amount depending principally on the extent of exposed surface, the temperature of the apartment, and the hygrometric state of the circumambient air. In hot summer weather, blood received into broad vessels becomes reduced by evaporation to one-third of its original volume. The time required to produce so considerable a diminution in bulk is

not mentioned. The authors recommend the use of deep and narrow vessels, and have given the results of three experiments made at a temperature of 61° to 62° F. in a moderately moist state of atmosphere. The mean of the three experiments represents the weight of the blood when first drawn = 16·867, and the loss by evaporation after twenty-four hours = 1·926. The containing vessel had a surface of 27 square centimetres. At a temperature of 50° F., two experiments were made, and the blood in the vessels had a superficial extent of 60 square centimetres. The mean result of these two is: weight of blood freshly drawn, = 47·875; loss by evaporation in twenty-four hours = 4·125. In order, therefore, to avoid this spontaneous evaporation, by which the more solid parts are concentrated, they recommend not only that the containing vessels be of the shape already mentioned, but that the air be hermetically excluded.

3. With respect to the density of the serum, this generally expresses the direct relation between the water and the solid matters therein contained; but this is not invariably the case, further experiments having proved that when there is an excess of extractive, saline and fatty matters collectively, compared with the amount of albumen, the density maintains a pretty constant ratio, but is always higher than when the albumen is in excess and the other matters are in comparatively small quantity. In some rare cases the presence of fatty matter alone in excess tends to lower the density still further.

4. When an individual is bled, provided this be not done rapidly, the different stages of the same bleeding furnish specimens of fluid which have different densities, the latter portions being less rich in solid matters than the earlier; but this difference is hardly perceptible till the bleeding shall have been carried to a certain extent; the impoverishment, however, is continuous and progressive. MM. Prevost and Dumas have long since made the same observation, and have explained the impoverishment of the blood in this way: "When we deprive a small animal of a notable quantity of blood, the veins rapidly absorb, at the expense of the rest of the system, an amount of liquid proportional and perhaps equivalent to that which has been lost to the circulating mass; whence it follows that the aggregate bulk of the particles appears to diminish in a given quantity of blood." In order, therefore, to represent by an analysis of the blood the condition of the animal from which it has been drawn, the first portion should be chosen.

The composition of the serum is sensibly affected by anterior bleedings; abstinence and the persistence of the disease

which necessitated the abstraction have also a considerable influence in rendering the blood less dense. The result of the alteration of the serum of the blood under the influence of two bleedings made at short intervals in twenty-seven individuals, who were all similarly affected, is given in a tabular form, to which, however, we must refer our readers.

The variations which the blood's composition undergoes in the various pathological states of the system are considered at great length and with considerable minuteness; the excess or deficiency of any constituent being established by a comparison with a model or standard of health previously deduced from a careful analysis of the blood of twenty-two individuals in health. There is some difficulty in constructing a formula which will represent in a general manner the composition of the blood in a healthy physiological state, due consideration being had for the thousand influences which tend to modify the results. According to Prevost and Dumas, who were the first to publish an analysis of the mean composition of the blood, this fluid contains in 1000 parts, 127 of globules, 3 of fibrine, 80 of solids of the serum, 790 of water. This formula, modified by M. Denis first, and afterwards by M. Lecanu, was nevertheless adopted by MM. Andral and Gavarret, and used by them as the *point de depart* to which they invariably referred in establishing general principles respecting alterations of the blood. According to the experiments of our authors, healthy blood contains 135 of globules, 2·5 fibrine, 80·35 solid matters of the serum, and 781·6 water, per 1000 parts.

In each great division of diseases the part played by the blood is made the subject of close investigation, and appended to the history of each is an exposition of the practical consequences to which the knowledge hence derived may conduce.

This chapter on the blood is so very long that to give even a *resumé* of the conclusions arrived at regarding the blood in the various individual diseases would occupy a considerable space; we shall therefore merely transcribe our author's remarks on typhus fever, and then pass on to the other parts of the work. This section commences by stating that, "in 1847 M. Henri Guenaud de Mussy and M. Rodier were commissioned by the French Government to enter upon an investigation of the typhus fever, which at this time was committing great ravages in Ireland. The former took charge of the pathological department, the latter was occupied with an analysis of the blood." After a polite acknowledgment of the reception they met with, and the facilities which were afforded them

in this country of pursuing their investigations both in the hospital and in the laboratory, they continue: " A complete work on this disease was to have been published, but circumstances have decided otherwise, and it is probable that this work will never see the light; one of us, however, has preserved the analyses of the blood of six patients affected with typhus fever, which we believe we ought to publish here in the hope that they may be of some use in the history of this disease.

ANALYSIS OF 1000 GRAMMES OF BLOOD.

	1. Man.	2. Man.	3. Man.	4. Man.	5. Woman.	6. Woman.
Density of the blood, .	1055·5	1047·0	1050·9	1042·1	1051·2	1041·2
Globules, ...	146·5	113·5	138·1	97·2	126·8	95·6
Solid parts of the serum,	75·4	71·1	60·1	72·0	70·0	71·7
Fibrine, ...	2·3	1·2	2·8	3·9	2·5	2·1
Water, ...	755·8	814·2	799·0	826·9	800·7	830·6

ANALYSIS OF 1000 GRAMMES OF SERUM.

	1. Man.	2. Man.	3. Man.	4. Man.	5. Woman.	6. Woman.
Density of the serum, .	1022·1	1021·1	1017·5	1020·0	1024·1	1020·0
Solid parts, ...	91·8	80·8	69·8	80·0	82·6	79·2
Water, ...	908·2	919·2	930·2	920·0	917·4	920·8

" It should be observed that these analyses were made previous to the period when the application of the polariscope to the study of albumen would have permitted a more exact appreciation of this latter element.

" The following conclusions may be drawn from these grave cases:—

" The *density of the blood* is, in general, diminished in a sensible degree.

" The *globules* in normal proportion in two of the men have been considerably below the average in two others; they have exhibited corresponding diminutions in one of the women.

" These facts being observed, we should examine into these deficiencies in the anterior state, the nature of the food, and particularly the anemic condition which pre-existed, the above modification of the globules not being altogether due to the disease itself.

" The *fibrine* was found either in normal proportions or

occupying limits inferior to the physiological state or in diminished quantity; this tendency to diminution, therefore, is a fact worthy of notice.

" The *density of the serum* is, in general, remarkably diminished; this diminution is, probably, the effect of the diet and the disease combined: it is, however, much more considerable in one case than in the others."

The third chapter is devoted to an examination of the products of secretion furnished by the conglomerate glands. In this the saliva, bile, pancreatic fluid, the renal, spermatic, lacteal, and lachrymal secretions, are successively examined.

In the fourth chapter the authors treat of the secretions of the mucous membranes, serous membranes, and skin. All the products of secretion from the surfaces are passed under careful review in their physiological as well as their pathological relations.

The fifth chapter exhibits the comparatively few results which science possesses with regard to the normal composition of the tissues and the pathological alterations which they are capable of undergoing. This chapter is rather an exposition of the *desiderata* of science in this respect than an account of the results which have accrued thereto.

The sixth and final chapter treats of the organic products of new formation, their physical relations, and chemical properties,—pus, tubercle, and cancer.

During the whole course of this work the authors appear not to have lost sight of the fact that investigations of this kind should possess a practical interest for the physician. The state of knowledge at present regarding the chemical constitution of the fluids, tissues, and organs, is represented in a manner sufficiently concise for purposes of reference, and at the same time with a degree of completeness that reflects the highest credit on the zeal and industry of MM. Becquerel and Rodier.

In fine, the volume before us is another of those highly valuable books for which we owe so much to the medical school of Paris; constituting a direct application of science to the practice of medicine, and thus converting the labours of the analytical chemist to their proper channel, so far as regards our profession and its objects. The low price at which it is published, and the facility which, from our intimate connexions with the French, their books may now be procured, fain make us hope that this, one of the most recent and best works on pathological chemistry, will obtain an extensive circulation in the British Islands.

Beiträge zur Lehre von den Knochenbrüchen. Von Albrecht Theodor Middeldorf, Doctor der Medicin und Chirurgie; Praktischem Arzt; Wundarzt und Geburtshelfer; Docenten der Chirurgie an der Universität Breslau; Wundarzt am Hospital zu Allerheiligen; Mitglied Gelehrter Gesellschaften zu Breslau, Erlangen, Magdeburg, Paris.

Contributions to the Theory of Fractures of Bones. By Albrecht Theodore Middeldorf, Doctor of Medicine and Surgery; Teacher of Surgery at the University of Breslau, &c. With five lithographed Plates. Breslau: Trewendt and Granier. 1853. 4to, pp. 150.

Dr. Middeldorf's work is divided into two parts—the first devoted to the consideration of fractures in general; the second, to that of individual or special fractures. The entire is derived principally from his own experience, based upon some hundreds of cases, of which he observed and accurately noted more than three hundred in the surgical section of the Hospital of All Saints, which was under the direction of the late Chief-Surgeon Alter, and, since 1850, under that of Professor Remer. The author states that "the unsurpassed works of an Astley Cooper, Boyer, Dupuytren, Malgaigne, R. W. Smith, &c., have stood by his side as faithful assistants in the laborious but certain path of seeking information at the patient's bedside, and have expounded and illustrated what he has himself witnessed." The materials at his command were so abundant, that almost all, even the rarer fractures, have come under his observation.

The volume commences with a "statistical introduction," from which we may cull one or two interesting results; thus it appears that in the city of Breslau, the population of which, at the time of the author's observations, amounted to 106,000, exclusive of military, 167 patients, suffering from fractures, were treated during the three years over which these observations extended, viz., in 1849, 54; in 1850, 65; and in 1851, 48; giving a yearly average of $55\frac{2}{3}$, and a monthly average of $4\frac{2}{3}$. The proportion of cases of fracture to the population was, therefore, in 1849, 1 to 1963; in 1850, 1 to 1630; and in 1851, 1 to 2208. During the same period, there were admitted into hospital, in 1849, 5829 patients from all causes (or excluding cases of cholera, 4852); in 1850, 4707; and in 1851, 4495 individuals; giving a proportion of cases of fracture to patients from all causes, in 1849, of 1 to 107·9 (or, excluding cholera, of 1 to 89·852); in 1850, of 1 to 72·4; in 1851, of 1 to 92·8. But if this investigation be confined to the surgical

division of the hospital, the result is, that in 1849 one patient out of every 26 surgical cases laboured under fracture; in 1850, the proportion was 1 to 24; and in 1851, 1 to 27; from which it would appear that, on an average, every twenty-fifth surgical case is one of fracture.

The author gives similar statistics showing the influence of age, sex, season of the year, rank, and occupation, and of the predisposition of individual bones of the skeleton in the production of fractures. As the influence of many of these depends, however, on particular circumstances, which must vary greatly in particular localities, we shall not enter into any particular account of them, but shall only remark in passing, that, of 179 fractures, 8 belonged to the bones of the head; 77 to those of the upper extremities; 38 to those of the trunk; and 56 to the lower extremities.

The author gives copious and well-arranged Tables, showing at a glance the details of the 167 cases of fracture already mentioned, under the heads (besides the columns of reference to the dates and books of the hospital) of name, occupation, age, duration of stay in hospital, cause, nature of the fracture, complications, treatment, result, duration of treatment, and observations.

Having disposed of the *etiology* of fractures, Dr. Middeldorf proceeds to consider the several varieties of these accidents. In speaking of them he remarks that, "besides the fissures which occured in fourteen cases of fracture of the skull, not included in the Tables, I have hitherto observed only one instance of imperfect or partial fracture. This was an infraction of the middle of the right ulna. The patient, a boy of fourteen years of age, had met with a fall, and, though suffering pain, continued to work for eight days, when, in giving a violent blow with a very heavy smith's hammer, he suddenly experienced a cracking sensation, and became unable to work. On subsequent admission into hospital, the bone was bent towards the part of the forearm occupied by the extensors; the callus was still, however, capable of being easily placed in its proper position. We may here with great probability assume that an infraction had first occurred, which was converted into a fracture, partly by muscular action, and partly by the shock of the blow. Such accidents may indeed occur much more frequently in the ribs, but here they may very easily escape recognition, as we cannot as yet assume that a deep-seated pain and inflexion, following the application of violence, but without crepitation, and with inadmissibility of displacement, are with any certainty diagnostic of them. There are fractures

of the forearm, especially in children, which may easily mislead the unpractised observer to suppose that an infraction has taken place, in which we find the limb bent at an angle, capable of being raised without hanging loose, and manifesting a certain coherence as if there was merely a flaw in the bone, for we can perceive a motion which diminishes the angle; in most cases we very easily perceive a motion which increases the angle, but only with effort, and accompanied by a plainly audible rustling and commotion. Now if the latter motion be first made, it is supposed that a cohesion, such as exists in infraction, is present, but these are phenomena which are simply founded on the catching of the dentated fractured edges in one another."

We entirely agree with the author that the signs which he has mentioned are not, by any means, diagnostic of such a lesion as imperfect or partial fracture. We have always been of opinion (and we have examined recent specimens which confirmed our belief), that in these cases the bone retained its curved form, not in consequence of the osseous fibres upon the side of the concavity remaining unbroken, but from their becoming mutually impacted, and assuming a dentated or suture-like arrangement. A few years ago, Professor R. W. Smith laid before the Pathological Society of Dublin a specimen of a recent injury of the fibula, which had been supposed, during life, to have been an instance of incomplete fracture of its lower extremity; but an accurate examination of the preparation showed that, although the bone still retained its curved form (even after having been deprived of its periosteum by maceration), the fracture was complete, the osseous fibres, upon the side of the concavity of the curve, being mutually impacted so as to form an extremely firm suture.

The author believes that he has twice seen separation of the epiphysis, proceeding from direct causes, in the humerus of boys of fourteen and fifteen years of age. "The character of the crepitation, which was not that of rough, hard, spongy bones, but was a gliding one, as well as the other known signs, especially, in this case, the ease with which the sharp edge of the caput humeri could be felt, over which the vessels and nerves ran stretched like strings, and were thus compressed, producing a sensation of formication, the deviation of the direction of the axis of the shaft of the humerus, &c., made the diagnosis, which fortunately we had not an opportunity of confirming by dissection, very probable."

The following section is occupied with the symptomatology of fractures in general; the next with the consideration

of the diagnosis. The author concludes his review of the latter subject with some observations on the use of the acupuncture needle as a subcutaneous probe for the examination of a fracture. We shall not, however, at present follow him in his remarks upon this subject, as he proposes to investigate it more fully hereafter in a "Treatise on Examination with the Needle."

The remaining sections of the first part are devoted to the prognosis, the course and results, and the treatment of fractures in general. In the second or "Special Part" of his work the author treats of individual fractures, which he arranges under the four principal heads of fractures of the bones of the face, fractures of the bones of the trunk, fractures of the bones of the upper extremities, and fractures of the bones of the lower extremities.

The author describes with great minuteness the construction of a complicated double inclined plane for fractures of the thigh, capable of being employed also for keeping the limbs suspended, and designed especially for the use of public institutions; but as it would be difficult to follow his description without reference to the figures with which it is accompanied, we must on this subject refer our readers to the work itself. The lithographs which illustrate this and the other apparatus described in the course of the Treatise are admirably executed and highly explanatory, and we should be guilty of an omission did we fail to notice the excellent style in which the volume itself is brought out, being beautifully printed on most excellent paper, recommendations which do not always apply to continental works.

On Fatty Degeneration. By the late W. T. BARLOW, F.R.C.S. London: John Churchill, 1853. 12mo, pp. 92.

THERE are few subjects of greater interest to the practical physician than that of which the volume before us professes to treat. The vital pathologist finds in the consideration of fatty degeneration ample material for reflection and study, since, being not unfrequently silent in its working and unsuspected in its progress, it may occur that the first notable indication of the change which has been effected, be evidenced either through its fatal termination, or under such circumstances as place at defiance the resources of medicine.

It cannot be denied that of late years extraordinary advances in our means of physical diagnosis have been perfected.

We are now, in microscopic examinations, enabled to confidently recognise those particular characteristics which indicate the very earliest stages of material change. The researches of the microscopist and chemist have, as it were, unfolded the whole map of morbid action, wherein we may trace the gradual progress of disease, and declare not only the nature of those changes already accomplished, but even premise those further alterations, which, pending the continuance of such action, would undoubtedly occur.

Having attained so much of certainty in our comprehension of life as evidenced by its effects on matter, let us inquire—Do we possess the same capability of inferring the nature of changes progressing in matter, from the concurrent vital manifestations? Or, in other words—Are we competent in the living structure, to pronounce the significance of each particular symptom with equal certainty as we can in the dead body declare the nature of any special appearance? Happily for mankind, observation of disease affords a negative reply, since the whole category of latent affections, as well as the progress of many visible alterations, declare, physical changes may progress without producing appreciable derangement of function until such time as the structures they involve prove inadequate to the purposes of the economy. Conditions are detected after death which had never been suspected during life, and symptoms during life exist inexplicable by post-mortem examination. The human organism is thus proved to possess a power of vital accommodation, by which the action of its structures is maintained though the elements entering into their constitution be materially disarranged. Were it otherwise, existence would be dependent on endless contingencies, since disease and death should be identified with each other.

We admit that this latency of many diseases is a principal source of their fatality. If we be asked—Is the fact that morbid changes may attain a most formidable extent previous to their discovery, to be regarded as a proof of the inaccuracy or incompetency of medicine? we reply, no more than our incapability of explaining many visible phenomena argues the incorrectness or insufficiency of the natural sciences. In the contemplation of nature there are many sensible operations which we must be content to study through their effects, even though in our observation of disease those effects imply the destruction of powers whose perfection constitutes the duty of the physician. Such a question involves not only our just estimation of the relation which the material structures hold to each other, but also our knowledge of how far these separate structures

contribute to the essential purposes of our being, conjoined with our appreciation of that general pervading influence which insensibly guides and directs the whole, each tending to prove that it is not in the narrowness of science but the vastness of life—not in the limited character of material changes, but the unlimited and variable nature of immaterial influences—the answer to such an inquiry rests.

We have already premised that microscopy and animal chemistry have enabled us to measure with extraordinary precision the results of aberrant vital force, and in advancing our knowledge respecting those transmutations of organic elements which occur in the living body, have thus imparted to us in many affections increased confidence in our prognosis and treatment; yet, inasmuch as the nature of this change we are considering does not admit of such demonstration except through the analysis of its ultimate effects, whose presence may remain either undetected or beyond our reach, until the extent of its development argues a confirmed condition of the system; we are the more fully impressed with the necessity of closely studying its vital as well as cadaveric pathology, since it is in our estimation of their mutual relations we can alone hope to solve the difficult, we might almost add, the anomalous problems, affections of this character not unfrequently present.

These opinions have been strengthened by our study of Dr. Barlow's work, which, replete with the views of many of the best and most recent authorities, has afforded us both profit and pleasure in its perusal.

Repudiating the supposition that microscopical appearances are in themselves sufficient to explain the nature of many changes in their immeasurable relations to decay and death, Dr. Barlow proceeds to direct particular attention to the association of muscular atrophy with muscular degeneration, and impresses the true signification of the former term, which he regards as implying not alone an obvious wasting of the affected tissue, but also a deficiency of its perfect nourishment. On the latter view it is quite explicable that real atrophy and seeming hypertrophy of a part may coexist, as is exampled by hearts which are at once fatty and enlarged, showing increased bulk without corresponding power. As the causes of atrophy and degeneration are believed by the author to be identical, both blending inextricably and forming very often descending steps of one downward course, and as it seems impossible to conceive how any part can ever be transformed into a lower material without first suffering an impairment of nutrition, Dr. Barlow suggests that in the due consideration of the latter the

rational study of the former rests, and accordingly proposes for our inquiry some of the principal causes which conduce to such an end, those causes admitting of being ranged under one of the following heads:—1st. A wrong or defective state and composition of the blood. 2nd. An insufficient supply of blood. 3rd. A deranged or obstructed influence of the nervous system. 4th. An imperfect, unhealthy, or declining state of the parts to be nourished. These conditions, be it observed, being in every respect the reverse of those which Mr. Paget has specified as most important in order to the completion of perfect nutrition.

In corroboration of the first proposition, the assertion of Harvey, that the blood is "the cause of youth and old age,"—the observations of Simon respecting the relations of the blood corpuscles to the process of nutrition in different periods of life,—the researches of Mr. Canton, establishing the true nature of the arcus senilis,—are considered as together confirming the author's views;—that closely associated with changes in this fluid is that material perfection and vital energy, whose declension and decay has been so ably described by Sir H. Halford as being symptomatic of the "climacteric disease." Notwithstanding Sir Henry's opinion that "a disease rather than a mere declension of strength, and decay of natural powers," is indicated by this "climacteric" condition, Dr. Barlow still believes that it may be in many instances attributed to the form of degeneration we are considering, to which, under such circumstances, he observes: "we can hardly affix the term abnormal or morbid." Dr. Marshall Hall's views on "the decline of the vital powers in old age," and the symptoms he sets forward as indicating the same, when compared with those of the fatty heart, as stated by Dr. Quain, appear so perfectly analogous, that Dr. Barlow is led to believe in their close identification with each other, while the failure of function which degeneration produces, when contrasted with those temporary disturbances consequent on chlorosis and other affections of the blood, are regarded as tending to further establish the great practical inference that this abnormal condition, and the natural decay of an organ, though admitting of widely different explanations for their immediate predisposing causes, may in their essential nature be considered as identical, both indicating beyond question, impairment of nutrition.

The ravages of disease, and the progress of time, may in their operations anticipate each other. We find this special form of degeneration is not confined to any particular age, but is to be met with, either supervening on other affections, and

thus in them originating the most dangerous complications, or itself laying the foundation of affections, usually, we might almost add, necessarily, of a fatal character.

The observations of M. Louis, M. Bizot, and Dr. Ormerod, respecting the association of the fatty heart with phthisis,—of M. Louis, Dr. Latham, and Dr. Stokes, upon the relation of the softened heart to continued fever,—while establishing the truth of the foregoing remarks, are considered as further illustrative of the author's views:—that defective nutrition may lead to degeneration as well as softening of the tissues. Having noticed that such a complication in phthisis may offer one explanation of those cases of sudden death which sometimes occur in that disease, we read the following:—

"But how are we to tell whether this change of structure of the heart, supposing it to be detected after death, has preceded the fever, or occurred during its course?"

In reply, we may be permitted to refer our readers to the descriptions of both Louis and Stokes, who have with faithfulness and perspicuity detailed what we may term the specific appearance of the fever heart, the latter of whom, in his original researches on this important subject, published in the pages of this Journal many years since, particularized such conditions as, to the attentive observer, could scarcely fail to be sufficiently diagnostic of the post-mortem appearance in question, while, at the same time, he laid down such directions for its recognition during life, as render it scarcely possible its presence, if suspected, could remain undiscovered.

The occurrence of typhus fever in a patient whose heart was, previous to its accession, in a debilitated condition, presents one of the most formidable combinations of disease with which we are acquainted; the importance of whose recognition, we believe, cannot be too highly estimated, since in treatment it affords additional confidence in the early and free use of stimulants, while in prognosis it imparts greater caution, as from the coexistence of two causes, each adequate to place the vital powers in abeyance, a protracted and dangerous illness, or at the best, a tedious convalescence, may be anticipated. We cannot lay down any physical signs which might be considered as characteristic of this compound condition, excepting those already given by Dr. Stokes as indicative of typhoid weakness, whose earlier manifestation and more decided development, when compared with the previous history and concurrent condition, might lead us to infer such a special state.

The fact fully and clearly illustrated by Dr. Quain, that

obstruction of the coronary artery may lead to local fatty degeneration of the heart—the connexion between softening of the brain and narrowing of the arteries supplying the affected part—the atrophy and decay which, generally speaking, follow arrestations or diminutions of the current of blood, as observed by Mr. Simon to occur in the kidney, consequent on the obstruction of a small artery, are considered as sufficient proofs:—that an inadequate supply of appropriate blood must be also regarded as one of the principal causes of this change. However, we may, from special circumstances, be enabled to speak of the effects of such a cause on any particular structure, it is difficult to form an estimate of the general influence of this uncomplicated condition, since the questions of simple deficiency and morbid changes of the blood are to a great extent inseparable:—the association of anemia with spanemia, or the coexistence of deficiency and depravity of blood, being fully confirmed by Mr. Simon's analysis of that fluid in melæna, and M. Andral's investigations in anemia, the one showing the deficiency of fibrine, the other, the diminution in the proportion of the blood corpuscles,—which conditions, according to Dr. Ormerod, were associated with the most marked degeneration of the heart.

That the occlusion of the minute vessels of a part may be the consequence and not the cause of the locally developed affection, Dr. Barlow considers the condition of the pulmonary vessels in an inflamed spot of lung, as noted by Mr. Paget, as well as the coagula in the vessels of a mortified limb, fully establishes. To uniformly distinguish that occlusion which precedes, arises in the course of, or is superadded to any local affection, presumes a certainty in data we at present do not possess, nor could we, were we enabled to do so, isolate such conditions as the cause of this disease, since, to use the words of the author, "it is often quite impossible to say how much is due to the state of the vessels, how much to the condition of the blood itself, and how much to the defective assimilation of tissues, the latter of which has often most undoubtedly a large share in the process of destructive conversion."

The occurrence of sanguineous apoplexy in a state of anemia is believed to depend on fatty degeneration of the cerebral vessels, a subject on which the researches of Mr. Paget have thrown much light, while the writings of Dr. George Burrows and Budd further support the doctrine, that all chronic and debilitating maladies may so impair the nutrition of the cerebral blood-vessels as to lead to their degeneration and rupture, thus giving rise to an analogous condition to that described by Dr.

Quain, where obstruction of the coronary artery eventuated in local fatty degeneration, under which circumstances apoplexy may occur in persons having, to use the words of Dr. Burrows, "the very reverse of the apoplectic make."

In his observations on the influence of the nervous system, and its relation to the progress of nutrition, much that is interesting is to be found. That action and reaction of mind and body, which many authors have previously noticed, is by Dr. Barlow particularly dwelt on. The influence of the emotions on the secretions as detailed by Dr. Carpenter—the effects of mental attention on the bodily organs as set forth by Dr. Holland—the researches of Lallemand and Rostan on the influence of the depressing passions—the fatal consequences observed to follow long-continued anxiety and undue mental exercise as described by Dr. Forbes Winslow, illustrated by the pallid cheek, the attenuated frame, the careworn brow and early grave of those many whom genius fostered that fortune might crush,—demonstrate too sadly the close association and mutual dependency of the material and immaterial constitution, as well as their ready co-operation for the production of disease.

That there is a local failure of the assimilative power which is always the immediate and necessary precursor of degeneration, the circumstances under which it is developed appear to indicate. The interesting point in such an inquiry to be determined is, whether a part be unable to assimilate from want of material, or power to appropriate it. To solve this question we must first be in a position to trace the steps in the morbid process, and to determine, not only that eclectic power whereby parts abstract, but also that special power by virtue whereof they perpetually renovate themselves; and, while making due allowance for the result of combined agencies, to also estimate the relative importance of those separate operations whose aggregation constitutes this influence. Such knowledge, in its relation to the disease we are considering, we can only hope to more closely approximate by our just comprehension of the laws of nutrition, since therein rests our capability of estimating the germ power, and the influence it exercises through all our being. In the progress of life is demonstrated the process of decay. Our capability of recognising the one will be therefore proportionate to our intimate knowledge of the other.

The researches of many microscopical pathologists have established the character of those several changes in the organic cell which precede degeneration, and noted the successive stages of germination, growth, and death. That their labours have not eventuated in corresponding accuracy in treatment, has by

many sceptics been advanced in depreciation of their practical advantage. Had M. Andral accomplished no more for science than the establishing the compound nature of many pathological phenomena which the casual observer might consider as simple, his labours had not been in vain; for therein rests the refutation of those doctrines which limit or estimate the varied phenomena observable in living beings, according to the operation of ordinary physical or vital forces, while at the same time, the cause of the uncertainty in treatment is thereby in a great measure explained. Since, as Dr. Williams has already shown, to correct those primary changes in the organic elements which seem to set at defiance the ordinary laws of nutrition, and eventuate in such transmutations as those under consideration, would imply our capability of not only commanding uniformity in vital action, but also of accurately measuring vital force;—a supposition, which, though so thoroughly erroneous, is still, we fear, entertained by some who regard natural and vital laws as identical, and presume that the same sensible operations observable in the interchange of organic elements, when removed from vital influences, must be accomplished in a like manner, follow a similar course, and be equally as appreciable when governed and directed by such influence; forgetting that the very existence of the conditions so specially examined is the evidence of the accomplishment of a certain change, which may be either the simple result of many primary operations, or the compound result of many secondary operations, of whose individual nature we are unable to speak, except through the complicated evidence their consummation affords.

Mr. Paget has well described the primary development of the cell, the deterioration of its nucleus, and consequent blighting of its germ, as observed by him to occur in fatty transmutation of muscular structure; such transmutation, according to that distinguished writer's views, must therefore be regarded as so far bespeaking irreparable decay, since the instruments of reparation, *quoad* the structures involved are wholly destroyed. From this affirmation the very important inquiry arises, wherein then rests our hope for the patient? To this Dr. Barlow replies, "not in the future changes of the part destroyed, but in the efforts of the bordering tissue—not in absolute death, but reparable atrophy." We admit experience too frequently verifies Mr. Paget's opinion that "a tissue once converted into fat may be held to have perished irrecoverably." Are we, however, to give up in despair, and to presume that uniformly this abnormal condition is beyond the reach of the general surrounding vital influence, because it is incapable of

manifesting special vital force? Or, should we, with Dr. Stokes, rather entertain the hope, "that with the advance of medicine, both diagnostic and hygienic, we may yet be enabled not only to check the growth of fat in the heart, but to restore the muscular fibre to its pristine condition of volume and power?"[a] That Dr. Barlow believes much good, be it curative or prophylactic, may be expected from the employment of suitable means, we infer from his advocating, according to the circumstances of the case, repose; the administration of iron; such change of air and scene as entails cheerful occupation for the mind and healthful exercise for the body, which he declares he has found, not only to arrest the atrophy which would have become degeneration, but also to stay the latter where it had begun.

We have so far, analytically rather than critically, reviewed the first part of "Barlow on Fatty Degeneration." We cannot at present enter more fully into the subject; we trust, however, on a future occasion to do so, being fully impressed with the practical importance of those researches, to which, as his writings testify, Dr. Barlow must have devoted much time and great labour. Yet, ere concluding these observations, we shall briefly notice some contributions, which, emanating from this side of the Channel, have considerably advanced our knowledge on this subject. We are the more particularly induced to do so, since, on the present occasion—as on others—those contributions have been to a great measure ignored.

In his recent work, alike remarkable for the vastness of its research as the philosophy of its reasoning, Dr. Stokes has fully, and we believe impartially, set forth those sources from which the most valuable additions to our knowledge on this subject, in connexion with the heart and great vessels, have been derived.

The character of the apoplectic seizures, which may be considered as indicative of fatty degeneration of the heart, was many years since described by Dr. Cheyne[b], and subsequently confirmed by Mr. Adams[c], the latter of whom, in his Pathological Descriptions, also established the association between atheromatous and fatty depositions, which, although the researches of Andral, Lobstein, and Gluge, have not tended to the same result, more recent observations approve. The demonstration, by Professor Smith[d], of free oil in the blood, while showing that this fluid is sensibly affected in the change,

[a] Stokes, Diseases of the Heart and Aorta, p. 356.
[b] Dublin Hospital Reports, vol. ii. p. 217.
[c] Dublin Hospital Reports, vol. iv. [d] First Series of our Journal, vol. ix.

leads Dr. Stokes to the further inference, that "a fatty state of the heart may be caused, not alone by degeneration of the protein compounds, but also by oil already formed, and circulating in the blood itself"[a]. The cases detailed by Dr. Townsend, expounding the latency of this disease[b]—the accurate detail of the physical manifestations, denoting progressive and matured softening of the heart, as witnessed in fever—the association of its vital and mechanical operations as a means of diagnosis in fatty degeneration, which Dr. Stokes has recorded both in the pages of this Journal, and in his great work, to which we have alluded—the association of certain conditions of the heart, with the occurrence of delirium, as a guide to treatment in fever, as set forth by Dr. Hudson[c]—the eminently practical contributions to our knowledge of disease of the brain as dependent on disease of the heart, from the pen of Dr. Law[d]—the more recent essay of Mr. Richardson on "Permanently Slow Pulse and Fatty Heart"[e],—and the numerous contributions to our knowledge of the vital and physical evidences of this disease which are to be found in the writings of many throughout our pages, conjoined with the records of the "Dublin Pathological Society,"—sufficiently prove that hitherto we have been neither negligent nor careless observers, since much of what is anatomically true, and more of what is practically useful in our recognition and treatment of this disease, has been noticed by and is fairly due to the labourers of the Irish Medical School, thereby affording the best reply to the energetic declamation of certain alarmists, who, in their vivid expositions of our small faults, seem to have manifested an equal indifference to our great merits.

Finding by the title-page that this was a posthumous publication, we were induced to refer to that highly useful work, "The Medical Directory," for the present year, in the obituary of which we read as follows:—

"His—Dr. Barlow's—illness, had been preceded by some circumstances of an irritating and vexatious character, which had kept his nervous system in a state of much excitement; some regulations, emanating from the weekly Committee of the hospital, requiring his signature each time he visited the wards, together with other changes in his department, harassed and annoyed him; headach of some days' duration, with sleep-

[a] Stokes, Diseases of the Heart and Aorta, p. 320.
[b] First Series of our Journal, vol. i.
[c] First Series of our Journal, vol. xx.
[d] First Series of our Journal, vol. xvii.
[e] No. 28 of our present Series.

lessness, were followed by febrile symptoms and exhaustion, which terminated fatally."

A statement of this nature is always very painful to us, for the question arises to our mind, why can such things be? We have had some opportunity of forming an opinion, and recalling our own experience as well as our observation of others; and our conviction becomes the more confirmed, that the possibility of similar occurrences rests not in "our stars, but in ourselves." Do we, as a body, uphold and suppport each other? Is our profession recognised with that due honour, and treated with that proper respect, which the vastness of the interests it involves, and the responsibility of the duties it entails, justly entitle it to? Is its social and scientific position identified? Experience, we regret to say, affords a negative reply. Whence are we to hope for redress? Not surely from public boards, who value our services at a lower rate than those of ordinary mechanics; not surely from corporate bodies, who, in conflicting interests, seem to lose sight of those great principles committed to their care; nor yet from despotic Committees, in whose hands it appears not only the duties of our office, but its very existence, rests. But rather, in that reciprocal confidence and mutual co-operation one with another, which, while affirming our just claims as a profession, at the same time will lend stability to our position as individuals; and this can only be effected by honourably upholding each other, rather than following in that course which we have already strongly repudiated, of misleading the public respecting our claims to its good faith, and so affording fictitious grounds for their unjust suspicions or oppressive enactments.

A Treatise on the Diseases, Injuries, aud Malformations of the Rectum and Anus. By T. J. Ashton, Surgeon to the Blenheim Dispensary, formerly House Surgeon to University College Hospital, &c. London: Churchill. 1854. 8vo, pp. 356.

In the twelfth volume of our former Series (1838) will be found a review of a Treatise on Diseases of the Rectum by the late Dr. George Bushe, a surgeon of distinguished abilities, who received his education in this city, and who left this country to fill the Chair of Anatomy at New York. In Mr. Ashton's preface we find the following testimony to the value of Dr. Bushe's work:

"The treatise of Dr. Bushe, of New York, who unfortunately died shortly after its publication, is the only one with which I am acquainted that embraces the whole subject; and from it I have gained much valuable information."

This paragraph, and an occasional mention of Dr. Bushe's name, constitute the only acknowledgment Mr. Ashton sees fit to make for copying, with singular fidelity, a great part of Dr. Bushe's book. We shall lay before our readers a few proofs of this wholesale, and we are happy to say nearly unexampled act of literary piracy in the present age. Were we to bring forward in evidence all the parallel passages in the two volumes we should be obliged to transcribe a large portion of each work. We must, to expose so flagrant a dishonesty, contrast some passages, and we shall merely premise that the following selections are taken almost at random:

BUSHE, page 93.

Inflammation and Excoriation of the Anus.

"These affections are generally combined, and may be produced by long-continued walking, or riding on horseback, the passage of irritating secretions, or the want of cleanliness. Obesity and warm weather strongly predispose to them. When they arise from excessive walking, or riding on horseback, nothing more will be necessary than to keep the bowels easy with enemata, to wash the parts three times a day, to dust them with hair-powder, or lapis calaminaris, to place a fold of old linen between the buttocks, and to enjoin the horizontal position. Should they depend on irritating secretions, produced by cathartic medicines, they will subside when the purgation ceases. If they coexist with diarrhœa or dysentery, they will disappear with the cure of these diseases. When the secretions, however, become vitiated from luxurious living, it will be necessary to enforce a vegetable

ASHTON, page 14.

Inflammation and Excoriation of the Anus.

"If the inflammation and excoriation are the result of excessive exercise either on foot, horseback, or riding many hours in a carriage, it will only be necessary to wash the parts two or three times a day, and to apply pounded lapis calaminaris, or hair-powder, and to keep a fold of lint or linen between the buttocks; it may be sometimes advisable to enforce the observance of the horizontal position. Enemata will be the best means of keeping the bowels open. Should the cause depend on the depraved state of the excretions, this condition must be remedied by the exhibition of appropriate medicines; small doses of mercury and chalk, with extract of taraxacum, or blue pill with hyoscyamus and cathartic extract, to be taken at night, and the following morning, Rochelle salts with infusion of senna, or a bitter tonic infusion; the sulphate of magnesia, dilute sulphuric acid, and the compound infusion of

diet, to exhibit blue pill and cathartic extract at night, and Rochelle or Epsom salts, in an infusion of senna, quassia, or some such preparation, on the following morning. This course should be continued until the alvine discharges becomes healthy. The local treatment necessary in each of these cases is similar to that specified above: when they arise from want of cleanliness, the hair and discharge become matted together, and thus form a crust which covers the excoriated surface. Under such circumstances, the parts ought to be poulticed until the crust becomes so soft that it can be removed without cutting the hair; for should this be done, as I have once seen, the irritation created by the stumps will increase the inflammation, protract the healing of the suppurating surface, and render the patient exceedingly uncomfortable, until the hair has again acquired sufficient length to diminish the friction of the buttocks on each other. After the parts are sufficiently cleansed, a saturnine cataplasm impregnated with laudanum should be applied, and changed every six hours, at which time the diseased surface ought to be washed with cold water and the common yellow soap. An emollient lavement may be taken daily, the horizontal position maintained, and a low diet strictly observed. In some cases, particularly those of long standing, it is sometimes necessary to use lotions of the sulphate of zinc, or nitrate of silver. The ointments of the oxide of zinc, superacetate of lead, white precipitate or nitrate of mercury, are also very useful remedies."

gentian, or infusion of cascarilla, make a good purgative. Other similar combinations may be prescribed; the remedies are to be continued until the alvine discharges become healthy. The same local treatment as that previously recommended must be adopted; if dysentery or diarrhœa be the cause, the effect will subside with the cure of these diseases; if the abuse of cathartic medicines has set up the disease, by the discontinuance of the cause the effect will be removed. When inflammation and excoriation have been produced by a neglect of cleanliness, the observance of different habits is the first step towards a cure; soap and water must be used several times daily; if the hair around the anus has become matted together by the discharge and filth, forming an incrustation over the excoriated surface, it must be softened by the application of linseed-meal poultices, and the free use of the hip-bath and soap; on no account must it be removed by cutting the hairs, otherwise the stumps left will cause much irritation and distress, until they have again attained a certain length.

. . . . . .

When the parts are sufficiently cleansed, poultices impregnated with opium and a solution of acetate of lead, or lint saturated with lotions of nitrate of silver, sulphate of zinc, or acetate of lead, may be kept to the parts; or ointments of the nitrate of mercury, bichloride of mercury, oxide of zinc, &c., may be applied. The recumbent position must be maintained, and the bowels acted on by cooling laxatives and emollient enemata."

Again, in the chapter on fissure of the anus and lower part of the rectum, we find the following:—

BUSHE, page 102.

"In the commencement of this disease the symptoms are not severe, being merely at one time a pricking or stinging sensation, at another a slight smarting in a certain point of the anus, which, under the use of lavements and low diet, subside either altogether, or, after a few days, return with more severity. The pain, gradually increasing, becomes burning, sometimes lancinating, and, when severe, throbbing. It is increased by forced expirations, as coughing, sneezing, and urinating. Every effort to discharge gas and fæces is attended with excruciating torment, which continues for one or more hours, attended with violent spasmodic contraction of the sphincter ani. So violent is the agony, that most persons thus afflicted put off the calls of nature, maintain the recumbent position, and some even avoid taking a proper quantity of nourishment for fear of increasing the fæcal mass. The pain is always increased by stimulating food, and in females during menstruation. . . . . When the fæces are solid they are slightly streaked with blood and matter, and when more soft, are figured, and of small size."

ASHTON, page 32.

"In the commencement of this disease the symptoms are not generally severe, and are only experienced when at stool, when, at a certain point, there will be smarting of greater or less severity, or perhaps only a slight stinging or pricking sensation may be felt; if the disease is allowed to progress, the smarting, during the act of defecation, will be greatly increased, or the pain may be burning or lancinating, followed by excruciating aching and throbbing, with violent spasmodic contraction of the sphincter muscle, continuing from half an hour to several hours. The stools, when solid, will be streaked with purulent discharge, and slightly with blood, and when more soft will be figured, and of small size. . . . The disease being fully established, the pain will be induced by sneezing, coughing, forced respiration, and by micturation, and so violent does the agony become, that individuals thus afflicted even avoid taking the proper quantity of nourishment, in order that the fæcal mass may be small; they also in their dread postpone the calls of nature . . . or may be compelled to remain recumbent.

In the above quotations which we have made from Mr. Ashton no reference is made to Dr. Bushe's work; in the next extract which we shall give there is an allusion to it, but with what sort of candour or honesty our readers may judge for themselves.

BUSHE, pages 152-54.

"I have frequently dissected them (internal piles) with the greatest care, and found that

ASHTON, pages 84-86.

"By dissection internal, hemorrhoidal tumours will be found to consist of both arteries

they were spongy, reddish, and contained both arteries and veins, the latter being most capacious, but always perfectly healthy. Their surface is villous, and generally bleeds when touched roughly, or scratched with the nail, the blood which issues being of a florid colour. In many instances I have been able to rub off exceedingly vascular and fragile adventitious membranes from their surface. Thus it would seem that they may acquire an increase of magnitude in this way."

and veins, the latter capacious, not in a diseased condition, but merely of abnormal development; the areolar tissue of the mucous membrane is hypertrophied. . . . The surface of the tumours is villous, presenting to the unassisted eye a granular appearance; they generally bleed freely if rudely touched, or accidentally scratched by the nail during an examination, the blood being of a bright red colour. Dr. Bushe states he has been able to rub off an exceedingly vascular and fragile adventitious membrane from their surface, and is of opinion that they may thus acquire an increase in magnitude."

We shall not weary the patience of our readers by making any further extracts at length; in order, however, to prove that these are no accidental or occasional instances of identity of opinion and expression, we shall add references to some others, which are as flagrant.

Remarks upon the symptoms of hemorrhoids, in pages 86, 89, 90, 91, of Ashton, are taken from Dr. Bushe's book, pages 154–55, 146–49, 148, 149, 146, 147. Pages 91 and 94 are a literal transcript into the text from a long note, beginning at page 147 of Bushe. The chapter on foreign bodies in the rectum opens with paragraphs taken from the 57th page of Bushe, and the bulk of the cases recorded in it is taken from the notes to his chapter on the same subject. The chapter on malformations of the rectum and anus is also made up by similar wholesale plagiarism, and this, with a degree of care not to be anticipated from the barefaced way in which the extracts given above have been copied. In this chapter there is less addition of verbiage (we cannot call it original matter), so that the English author resorts to transposition of paragraphs from the American, e.g.:—

BUSHE.	ASHTON.
Page 36, 38,	Page 326.
„ 44, 38, 39.	„ 327.
„ 49.	„ 328.
„ 46, 51, 52, 53.	„ 330-31-32.
„ 55, 54, 41, 50.	„ 334-35-36-37.
„ 43.	First part of page 338.

It was not enough, however, for Mr. Ashton to rewrite Dr. Bushe's work, and publish it as the offspring of his own brain (with the addition, to be sure, of certain facts and opinions which have gained general acceptance since the year 1837). His sins of bookmaking do not end here:—the book, such as it is, consists of 356 pages; upwards of 80 of these are filled with cases, many of them, as already stated, taken from Dr. Bushe without acknowledgment. One page is taken up with Montégre's classification of piles, which, we are told in the next paragraph, is unnecessary for practical purposes. Prescriptions are introduced into the text in such a way as to occupy much space[a]; the table of contents is expanded to twelve pages, at least eight of which might have been dispensed with, as a copious index of six pages supplies the information contained in them. We shall not complain of the large type and ample margin, nor of the numerous subdivisions into chapters and paragraphs; these are common sins, and, to a certain extent, venial; the eyes of the reader are saved, and there is abundant room given him for reflection: yet if all writers of monographs were to expand their works in this direction as much as Mr. Ashton has done, our libraries would soon be enlarged to a portentous size.

In conclusion, we shall only suggest to Mr. Ashton, when he again ventures upon wholesale plagiarism, to select an older and less remarkable book than that of Dr. Bushe; and above all, to shun the works of our countrymen, especially of those whose talents have raised them to conspicuous positions in foreign lands, for our feelings of national pride are certain to make us well acquainted with their contents, and we shall surely not spare those who rob their ashes.

Sleep and Dreaming. A Lecture delivered before the Cork Young Men's Association, during its third session. By John Popham, A.B., M.D.

The subject selected by Dr. Popham for his lecture before the Young Men's Association of Cork, being one which has alike

[a] Among these we find Dr. Graves' excellent recipe for habitual constipation (of course unacknowledged):—

Graves.	Ashton.
℞ Electuarii Sennæ, . . ℥ij.	℞ Confectionis Sennæ, . ℥iij.
Bitartratis Potassæ, . ℥ss.	Potassæ Bitartratis, . ℥vj.
Carbonatis Ferri, . . ℥ij.	Ferri Carbonatis, . . ℥iij.
Syrupi Zingiberis, quantum sufficit ut fiat electuarium.	Syrupi Zingiberis, q. s.
	M. Fiat Electuarium.

attracted the attention of physicians, philosophers, and poets, was therefore peculiarly adapted to such an audience.

Bringing to bear on its consideration a classic mind richly stored with varied knowledge, Dr. Popham ably accomplished that in which so many fail; and happily conjoining the solid truths of science with the vivid suggestions of fancy, embodied at the same time, in his eloquent address, many profound theories and deeply interesting facts.

Dr. Popham's pamphlet must be read with improvement and pleasure by all desirous of gaining information respecting those topics of which it so well treats, while the high ethical tone evident throughout its pages cannot fail to at once impress the reader with the unaffected zeal of the author, as well as the great practical advantages which must accrue to such Associations from the delivery of similar addresses by individuals so eminently competent and trustworthy.

Traité Clinique et Pratique des Maladies des Vieillards. Par M. DURAND-FARDEL, Docteur en Médecine de la Faculté de Paris, &c. Paris: Germer Baillière. 1854. 8vo, pp. 876.

IT is not a little singular, considering how medical literature abounds in treatises on the diseases of infancy and childhood, the small number of books which has been published on the peculiarities that characterize the diseases of old persons, or the special maladies to which they are subject. We made a somewhat similar observation some years ago, when reviewing the treatise of Dr. Day in the pages of this Journal, and since the publication of his volume, in 1849, we are not aware that any special work, except that of the late Reveillé-Parise[a], has appeared on the subject. That this does not arise from any want of interest in the inquiry, or material to write upon, is sufficiently proved, so far as regards our French brethren, by a reference to their periodicals and medical dictionaries, for in them are to be found, first, a valuable memoir "On the Diseases of Old Age," by M. Prus[b]; an admirable, concise essay, by M. Beau, entitled: "Clinical Studies on the Diseases of the Aged"[c], and an excellent article on the "Diseases of Advanced Life," by M. Gillette"[d]. Yet no English medical writer since

[a] Traité de la Vieillesse, Hygiénique, Médical et Philosophique. Paris: 1853.
[b] Mémoires de l'Académie Royale de Médecine, 1840.
[c] Journal de Médecine, 1843.
[d] Supplément au Dictionnaire des Dictionnaires de Médecine, 1851.

Dr. Day has thought it worth while to devote a special treatise to this subject, and therefore his work, though deficient in many respects, and devoid of much originality, is still the only standard book in the English language to which the practitioner seeking for information on the peculiar features which characterize the maladies of advanced life can refer.

M. Durand-Fardel, then, has supplied a deficiency much felt in medical literature, by laying before the profession the results of a prolonged study of the maladies of the aged during the many years he has been attached as *interne* to the asylums of Bicêtre and Salpêtriére, and of a special attention to these diseases for fifteen years. More than ten years ago he published a highly practical treatise on softening of the brain, in which he dwelt especially on this affection in the old; and stimulated by the reception which it received, he says that he has been encouraged in his present enterprise, and emboldened to submit to the judgment of the profession this extended work.

The volume commences with an introduction, containing an admirable exposition of the several points in anatomy, physiology, pathology, therapeutics, and hygiene, which are special to old age, and a correct knowledge of which is necessary to the understanding of the deviations from a healthy state that may occur in advanced periods of life.

The work itself is divided into four parts; in the first of which diseases of the brain and nervous system are treated of; in the second, diseases of the respiratory organs; in the third, diseases of the circulatory system; and in the fourth, diseases of the abdomen. To these is added an appendix containing two chapters, on gout and on diseases of the skin.

The diseases of the encephalon are, perhaps, those deserving most attention in a book devoted especially to an account of the maladies of old age, as they are most frequent at this period of life, and can then be most successfully investigated; the author has consequently applied himself most carefully to their examination, incorporating in his present observations what he had previously published twenty years since in his valuable work on Ramollissement of the Brain, and thus we are here presented with the most perfect essay on this important class of affections which has been ever written.

Their special description is preceded by a short inquiry into the difference between the diseases of the brain in infancy and childhood, and in advanced age. The most remarkable contrast existing between them being, that those of early life are affections of the membranes or periphery of the nervous centres, while in old age it is the hemispheres or central parts which

are affected; the diseases most frequently occurring at the latter period being cerebral hemorrhage and ramollissement. The several affections of the brain are then considered as follows: 1. *Cerebral Congestion*, which is most fully inquired into, both as regards its pathology, nature, and seat; the author considering it to be by far the most fertile cause of all diseases of the brain in old age. 2. *Meningitis.* 3. *Cerebral Softening*, under which head the physician will find a highly valuable and practical description of this important disease. 4. *Hemorrhage from the Membranes.* 5. *Sanguineous Infiltration of the Brain.* 6. *Cerebral Hemorrhage.* The first part of the volume is concluded with a special chapter on the *Treatment* of Diseases of the Brain.

The second part contains an equally full account of the special features of Pulmonary Catarrh, Pneumonia, Phthisis, Sanguineous Congestion and Infiltration of the Lungs, and Pleurisy as they occur in advanced life, together with the peculiar indications for treatment which then exist. It does not perhaps abound in so much original investigation as that devoted to diseases of the brain; nevertheless, it is most ably and comprehensively written. The same remark applies to the two following parts on the diseases of the circulation and of the digestive organs; and to the appendix, which, as already remarked, contains the essays on gout and on diseases of the skin.

On the whole, the work is a timely addition to the existing treatises on the several branches of the practice of medicine. It is well and clearly written; perhaps a little too diffuse in parts, but this is a fault common to most French and German medical authors; and as a book of reference for the practitioner or student, leaves little to be desired, if information be sought for on the diseases of old age.

Practical Observations on Gout and its Complications, and on the Treatment of Joints stiffened by Gouty Deposits. By T. SPENCER WELLS, Fellow of the Royal College of Surgeons of England; Member of the Royal Institution of Great Britain; late Assistant Surgeon in Malta Hospital, &c. London: John Churchill. 1854. 12mo. pp. 288.

THE design of the present treatise, according to the author, is not to furnish a systematic work on gout, but to institute an inquiry into certain points connected with its pathology and treatment, which he considers are not to be met with in other productions. As an example of this he alludes in his preface

to a connexion between gout and certain forms of secondary syphilis first suggested to him by the late Dr. Robert Williams, of St. Thomas' Hospital, London, and the value of the iodide of potassium as a remedial agent, "by the solvent action which it exercises upon the salts deposited round the joints in gouty persons." From the results which followed his observations on this subject, he was led to extend his inquiries to gout uncomplicated by syphilis, having had favourable opportunities for forming his opinions by a residence in Malta Hospital, as one of its resident medical officers, for five years; besides seeing numerous cases of rheumatic gout sent to that island from England, for change of air, he made a series of observations upon the relative effects of medicine and climate as far as they can be distinguished. Upon this collection of facts is formed the present work, which he offers to the profession with diffidence, as having grown out of a sincere desire to convey useful information resting on truthful data.

Treatises of this kind, not professing too wide a scope, but worked out by close reasoning and patient observation, will be always received with respect, and in his interesting little volume, the author has endeavoured to give his readers correct information rather than to display extensive reading. Without further preface we shall consider how far he has succeeded in attaining his object.

The writer begins his work with some general considerations upon the nutrition of the body and the causes which derange it. In investigating these causes, he finds that they all tend to one result, viz.—an alteration in the state of the blood. The experiments of modern chemistry have shown that in the blood of gouty persons certain principles exist which are not formed in that of healthy individuals. Further confirmation of this has been obtained by an examination of the secretions and excretions, the deposits round joints and along tendons, all of which contain the identical elements found as morbid ingredients in the blood. The natural conclusion, therefore, deducible from this is, that the blood rids itself of its impurities at the expense of other parts of the system, thereby producing disturbances of their functions and lesions of their structure. The immediate origin of these blood-changes is often doubtful, whether proceeding *ab intra* from the retention of effete tissues, or *ab extra* from imperfectly assimilated matter introduced into the circulating fluid.

The examination of the blood in gout has had encouraging, though as yet insufficient results. Thus, calcareous particles were noticed long ago by Haller as visible to the naked

eye; lithate of soda was found by Garrod and Bence Jones; urea has been also detected; these agents continue in the blood for a greater or less time, acting as sources of irritation, but eventually are removed by the emunctories of the body, or deposited from the current of the blood in various situations. The kidneys and the skin are the great purifiers of this fluid, lithic acid and the lithates being strained from the blood by these organs when their action is unimpeded; if, however, after repeated attacks of gout, they become debilitated by over-action, the balance of power in the system is disturbed, and the morbid matters left in the blood begin to be deposited in abnormal situations; hence arise those concretions of saline and earthy matters found in the fibrous tissues, destroying their elasticity and rendering them rigid and incapable of action. Chemical analysis has shown these to vary among themselves, but they contain more or less of the urates of soda, potash, and lime, with phosphoric acid and the phosphates. Such are the results supplied by chemistry, and with these facts the writer proceeds to consider the *causes* of the derangements of the processes of nutrition which give rise to those chemical changes.

In exploring the causes which deteriorate the blood in gout, a long train of hostile agencies passes in review before us, each of which possesses a greater or less influence in impairing the general health. Thus we may enumerate sedentary habits, feeble digestion, over-stimulating food, intemperance, excessive study, confined and unwholesome dwellings. It would be easy to add to this catalogue of constitutional agencies which prepare the ground for the seeds of the disease to take root. But most of them may precede other dispositions as well as the gouty, and may develop tubercle in a strumous constitution as readily as gout in a gouty one; it is necessary, therefore, to particularise with more exactness those causes which exercise a non-direct influence on its production.

One of the earliest and most powerful of these causes is "a *hereditary tendency* to particular modifications of the vital processes." There certainly is no aphorism in medicine so universally received as the tendency of parents to transmit certain peculiarities to their offspring. From the creation to the present day it has remained true that parents have produced children "in their own likeness." It would then be absurd to argue that in the lineaments of face and figure a resemblance can be transmitted, while a corresponding similitude in the shape and texture of internal organs is not congenital. Sir James Clark has fully developed the truth of this principle in phthisical habits, viz., "that a parent la-

bouring under tuberculous cachexia entails upon his offspring a disposition to the same affection, proportioned in general to *the degree of the disease under which he is labouring.*" Thus, if the malady prevail in one or both parents at the time of conception, the issue will possess a greater degree of susceptibility to the disease than children born under more favourable circumstances. If this be true when the ailment is produced by casual attacks, it becomes much more certain when the tuberculous cachexia is hereditary, though the good health of one parent may to a certain degree counterbalance the vicious condition of the other. Our author notices the same undesirable inheritance as transmissible from gouty parents, so that gout accidentally developed in an individual may descend from generation to generation through ages yet unborn, until the original gouty ancestor is enveloped in the obscurity of time. He gives some cases which illustrate this matter.

A gentleman was one of a family of six children, four of whom were born before the father had experienced a gouty attack; between the birth of the fourth and fifth the father had acute gout, and died of the disease some years later: the four elder children escaped gout, but the two younger were both gouty. These hereditary influences, if traced carefully, are as curious in a political as in a physiological light: they would form a singular chapter in the history of population. Men too often care little how much their vices and selfish indulgences may affect their posterity, no more than they care how they may react on themselves at the close of life. Still the wheels of society must roll onward; we cannot by either moral or legislative enactments stop marriages between cachectic individuals on the ground of producing a defective progeny.

In connexion with hereditary predisposition to nutritive derangements as a cause of gout, the author discusses the question whether gout can be induced by an "undue or irregular development of certain parts of the nervous system," and he combats the opinion that gout can be developed in healthy individuals by the excessive use of over-stimulating food. He believes that when hereditary proclivity is absent, this measure would only succeed in "men endowed with a highly organized condition of the nervous system." We are not disposed to go as far as the author in the adoption of this opinion. Gout, according to him, is peculiarly a disease of the high born, "distinguished for an ancestry rendered illustrious by high thoughts and noble deeds, for their own keen intelligence, for the assistance they have afforded to improvements in arts, sciences, and agriculture, and for the manner in which they

have led the spirit of the age." He continues, "I have never met with a real case of gout in other classes of the community, in a person not remarkable for mental activity, unless the tendency to gout was clearly inherited." Now an objection may here be naturally started, how it happens that gout prevails so much in an opposite class, in persons not illustrious by birth or distinguished for intelligence; for instance, in butlers, and coachmen, and hall-porters, those pampered menials who assume the habits with the livery of families of wealth and fashion. As this class has no pretension to the above-mentioned aristocratic transmission of the disease, we might perhaps be disposed to adopt the theory of Falstaff explaining the similarity of Justice Shallow and his servants, "that wise bearing or ignorant carriage is caught as men take diseases, one of another." Our author, however, contends that the disease in this servile class does not arise from similarity of habits, but is clearly inherited, the sons of these retainers of high families filling the easy station, leading the idle life, and using the same gluttonous indulgences of their fathers before them, so that master and man differ in the nosological variety of the disease, much as port wine, the drink of the one, differs from muddy beer, the beverage of the other. Whether because great men have gout, gouty men must be great men, is a proposition which certainly may give comfort to some gouty sufferers of aspiring minds, but experience shows that it cannot be relied on. We must take some exception, also, to another point of our author, wherein he asks "whether it be reasonable to suppose that a father and mother descended from persons who had cultivated their minds, and thereby kept the delicate fibrils of the brain in regular exercise, and who themselves continue to perfect the organism they have inherited, by a continuance of the same habits of mental culture, will impart to their children a brain precisely similar in size, composition, and arrangement, to that of children whose progenitors have lived in a state of mental sloth, who have never exercised their brains, and have, consequently, never attained that perfection which use imparts to every organ of the body. Such a supposition would be absurd. It would imply imperfection in the grand scheme of creation, denial of the greater perfectibility of the species, disbelief in the sure and certain progress of advancing civilization, and discourage those who are most earnestly labouring in the cause of education and humanity." Without denying that there is some probability in the above hypothesis, and that the poetic idea, "fortes creantur fortibus et bonis boni," is not a fiction gracefully put forward to please a patron, but a physiological fact,

we need only enter our hedge schools to find the children of some of those brainless peasants exhibiting a degree of acuteness which sometimes contrasts unfavourably with the progress of the noble scions of aristocratic houses, though possessing every advantage of education. How often do we find the offspring of eminent men degenerate! Doubtless, education and example have as much influence in developing mind as the "vis insita," otherwise courage and virtue would be matters merely dependent on the relative proportions of the brain.

Another and a most frequent cause of gout from deranged nutrition, assigned by the author is to be found in the use of food of an improper kind, or imperfectly assimilated. Experience has shown that too abundant or too rich an animal diet, if not worked off by habitual muscular exercise, tends to produce gout; and the same is true of alcoholic liquors, though of these, the vinous and fermented are more instrumental in causing gout than the distilled liquors. These principles seem to act by accumulating lithic acid in the system, but where this morbific agent is formed is as yet undecided; whether by the kidneys, the blood allowing some of it which is not excreted during sanguification to return by the renal veins to the general circulation, or by a prior process either in the changes undergone by the aliment, or in the extreme capillaries of the tissues. The author attacks the theory of Liebig upon the origin of gout from an excess of the non-nitrogenous principles in the body. These, Liebig states, attract to themselves the supply of oxygen, and thus prevent the conversion of the insoluble lithic acid into soluble urea and carbonic acid, so that it remains in the blood and appears in the urine. Mr. Wells objects to this, that a diet consisting of non-nitrogenous substances would thus increase the formation of lithic acid, which is contrary to experience, such an increase accompanying an animal or nitrogenous diet. He leans to the opinion of Prout, that lithic acid and urea are formed from the nitrogenized elements of disintegrated tissues and the imperfect assimilation of highly nitrogenized food. The results of practical observation accord with this view.

In his second chapter the author proceeds to distinguish between gout and rheumatism, which, though consanguineous diseases, have points of difference too strongly marked, in his opinion, to allow them to be regarded as varieties of a common malady. He enters into these distinctions at length, but we can only make a brief allusion to them. Thus the blood-changes are not the same in both. In gout lithic acid accumulates; in rheumatism lactic acid. Again, the fibrous tissues in gout be-

come incrusted by saline or calcareous deposits, none of which occur in rheumatism. The secondary differences are no less marked. For example, the liability to pericarditis, so frequent in rheumatism, is not seen in gout. In the former, acid perspirations are common; in gout the skin is dry. Rheumatism arises from changes of weather suppressing the secretions from the skin; gout arises more from dyspeptic causes. Rheumatism affects more the large joints; gout the small ones. The effect of remedies also may offer some specific marks of distinction, especially of colchicum, so powerful in gout, and so little available, according to the author, in rheumatism.

The author gives some cases of what is called rheumatic gout, popularly considered a kind of mongrel disease, with characters derived from both gout and rheumatism. He thinks both diseases may exist in the same person, yet preserve a *separate* course. For illustrations of his views we must refer to the work itself.

We find in the third chapter some original ideas upon gout modified by syphilis. It has lately been allowed that the poison of syphilis remains for years in the blood, and that it can be transmitted long after the original contamination, from parent to child, and in all probability from a diseased child to a healthy nurse. Now the existence of the syphilitic poison in the blood most probably modifies other diseases subsequently occurring, especially a blood disease like gout. In this way, some anomalous symptoms, apparently in connexion with gout, are more properly due to syphilis. Of these he cites examples of purpura, of lichen, and other cutaneous eruptions, of affections of the joints, &c., considered as gouty, but amenable to the treatment of syphilis.

We had marked some valuable observations in the fourth chapter on the morbid anatomy of gout in its structural changes, and in the fifth chapter on gout in the female, but we must leave to our readers the pleasure of perusing them for themselves.

The therapeutics of gout forms an extensive subject, about which much has been written; and our author divides its consideration into what he calls the *natural* and *artificial* treatment. The first, which we consider rather a doubtful expression, and which may better be replaced by the word hygienic, embraces the points connected with diet and regimen, a very useful chapter being devoted to these matters. Before entering on the medicinal treatment he discusses the cold-water cure, which has a chapter to itself, where he places it *between* diet and medicine, and calls on the physician to lay aside prejudice and em-

brace all that is useful in this agent. Mr. Wells, who certainly appears unbiassed in this matter, considers the hydropathic treatment dangerous in acute gout, and in chronic gout, when the amount of constitutional depression is considerable, which he thinks can be tested by watching the degree of reaction which ensues on sprinkling freely cold water over the surface of the body. In purely chronic cases, where a healthy reaction follows the free application of water followed by friction, he thinks it useful; and it may be applied by the wet sheet and local wet compress covered with oiled silk; the local douche is also often useful in stiff joints. The quantity of water to be drank he leaves to the instinct of the party, who should take care not to overdo the matter. In summing up the whole he comes to a kind of compromise with the medical practitioner, allowing all these measures to be done at the patient's house under his guidance.

In the medical treatment of gout, the author is eclectic. He justly condemns blood-letting, though in some gouty complications local bleeding is useful. Purgatives should be used with caution, and the warmer kinds preferred. He discountenances the employment of sudorifics, thinking their effect not beneficial, and prefers, where perspiration is required, that the hot air or vapour-bath should be employed instead of internal sudorifics. He gives easy and simple directions for obtaining either of these baths at little trouble. His observations on diuretics are valuable, and will repay perusal.

Attention has lately been drawn to chemical solvents of uric acid, and he prefers the Vichy water, or Struve's imitation of it, to any other. He gives in detail the various kinds of solvents recommended by authors, but regards the iodide of potassium as the most useful, preferring small to large doses. This remedy is especially indicated in combinations of gout with syphilis. The value of colchicum as a specific he discusses at length, and gives the preference to the *tincture of the flowers* as the best preparation; ten minims of this every three hours in an acute attack, and the same two or three times daily in chronic gout, being as much as he deems necessary. In long attacks, doses of a homœopathic amount, such as one or two drops, with similar subdivisions of a grain or two of the iodide of potassium, he regards as exercising a slow but certain influence both in preventing and modifying the results of the disease.

We must here conclude our notice of Dr. Wells' treatise, from which we have received both information and pleasure. We recommend it to our readers as containing much valuable informa-

tion on a disease of great interest, especially to such as practise in large cities. Both in its pathology and therapeutics they will find much that is new, and more that is useful. The principles of treatment which he lays down are the result of experience, guided and applied by correct physiological views.

The Science and Art of Surgery, being a Treatise on Surgical Injuries, Diseases, and Operations. By JOHN ERICHSEN, Professor of Surgery in University College, and Surgeon to University College Hospital. London: Walton and Maberley. 1853. 8vo, pp. 952.

IF he only can teach anatomy efficiently who has studied it carefully in the dissecting-room, or chemistry who has worked assiduously in the laboratory, assuredly none can give sound instruction in surgery or medicine, unless he who has learned disease from hospital practice.

The large surgical work before us has the recommendation of coming from the pen of an hospital surgeon, and it is gratifying to find that, where energy exists, a great undertaking like it can be achieved, notwithstanding the many disturbing circumstances which beset the private practitioner in a large metropolis.

We have often remarked that there is no more difficult task than to write a complete work on the theory and practice of surgery, and indeed, to suppose that a book embodying such a variety of material could be equally good in every point, and free from error in any, would be almost impossible; we are bound, however, to state, and we do so without wishing to draw invidious comparisons, that the work of Mr. Erichsen, in *most respects*, surpasses any that has preceded it. Mr. Miller's book on the Principles of Surgery reflects the highest credit on the author's learning, and so far as the theory of disease is concerned, may be considered as unequalled in fulness, clearness, and faithfulness of description. Mr. Erichsen's is a practical work, combining a due proportion of the "science and art of surgery," and certainly reliance may be placed on its statements regarding the leading points of practice. Some subjects are not as fully nor as satisfactorily dealt with as we should desire, but, as a whole, the imperfections of the work weigh very lightly.

The volume is separated into three divisions. The first treats of "first principles,"—inflammation, operations in general, amputations and disarticulations; the second of "surgical

injuries;" the third of "surgical diseases." We shall pass by the first part, and dwell on the second.

"*Effects of Injury.*—The effects of an injury, if at all severe are twofold,—constitutional and local. The constitutional effects are immediate and remote."

There is nothing to which the surgeon should pay more attention than to the effects of injuries. Most injuries, and we may say all surgical operations, are rarely in themselves fatal, their seriousness arises from the chance that some of the evils included in the above general division may supervene. One of the most serious of the remote effects is traumatic delirium: of it the author gives the following concise description:—

"*Traumatic delirium* not unfrequently occurs in cases of severe injury in individuals with an irritable, nervous system; particularly in those who had been drinking freely before, or were intoxicated at the time of the accident. It usually comes on about the third or fourth day, but not unfrequently earlier than this; and most commonly declares itself during the night. This disease presents two distinct types—the one inflammatory, the other irritative.

"In *inflammatory traumatic delirium* there is a quick and bounding pulse; hot skin and head, flushed cheeks, glistening eyes, much thirst, and high febrile action generally. The delirium is usually furious; the patient shouting, singing, tossing himself about the bed, and moving the injured limb regardless of pain. The treatment of this form of the disease is strictly antiphlogistic. Bleeding from the arm, or leeches and ice to the head; purging, and low diet will subdue it; but in many cases it is speedily fatal.

"The *irritative, or nervous delirium* usually occurs in persons of a broken constitution; and closely resembles ordinary delirium-tremens. In this form of the disease the pulse is quick, small, and irritable; the pupil dilated; the surface cool; the countenance is pale, with an anxious, haggard expression, and bedewed with a clammy sweat. The tongue is white, and there is sometimes tremor of it and of the hands; but this by no means invariably occurs. The delirium is usually of a muttering and suspecting character; the patient is often harassed by spectral illusions, but will answer rationally when spoken to. This form of disease is sometimes very rapidly fatal. A strong, hale man, but an immoderate spirit-drinker, admitted into University College Hospital with a simple fracture of the thigh, died of this form of delirium twelve hours after it first showed itself.

"The *treatment* of irritative traumatic delirium consists essentially in the administration of opium until sleep is procured, or the pupil becomes contracted. For this purpose large quantities are frequently required; and the drug should be given in full doses; from twenty to thirty minims of laudanum or half a grain of the muriate of morphia being required every second or third hour.

"If there be much depression, it will usually be expedient to administer the opiate in porter, or in that stimulant to which the patient—if a drunkard—has habituated himself. The administration of the opiate should be preceded by a free purge and an aperient enema, so that all source of irritation may be removed from the intestinal canal. A strait-waistcoat is commonly necessary in all cases of traumatic delirium, in order to prevent the patient injuring the wounded part.

"After sleep has been induced, the quantity of the opiate must be lessened; but it will be found necessary to continue it for some time, as there will be a tendency to the recurrence of the delirium at night.

"These two forms of traumatic delirium, the inflammatory and the irritative, are often found more or less conjoined; in practice a modification of the treatment then becomes requisite,—the surgeon depleting with one hand, and allaying irritation and giving support with the other."

The next chapter treats of injuries of soft parts—contusions and wounds.

In speaking of contused and lacerated wounds, the author observes—

"But the chief danger to be apprehended in wounds of this description is the supervention of gangrene. In these cases gangrene may occur in three ways:—

"1st. The contusion always kills a thin layer of tissue, which forms a slough on the sides or lips of the wound; but, in some cases, the violence done to the part is so great as directly to kill its whole substance. . . . .

"2ndly. The injury may be chiefly inflicted upon the great vessels of the limb, damaging them to such an extent as to interrupt, completely, the circulation; gangrene being thus induced, indirectly, in the parts supplied by them. . . . .

"3rdly. The true traumatic or 'spreading gangrene,' the most fatal variety of mortification, may occur from comparatively slight wounds, in consequence of some constitutional disorder; but most commonly it is the result of severe contused and lacerated injuries and fractures. . . . .

"The peculiarities of this form of gangrene consist in the rapidity of its progress, its great fatality, and the tendency it has to affect and spread along the cellular tissue of the limb in preference to any other part. It is truly a constitutional affection, depending rather on the state of the blood than upon the local injury. Thus in some cases we see it follow comparatively slight contused wounds, whilst in others the most serious crushes and injuries may occur without it. It appears to be closely associated in its occurrence with those conditions of the system that dispose to the supervention of erysipelas, phlebitis, and other inflammatory diseases of a diffused or spreading character; and hence its great fatality. From the

other varieties of traumatic gangrene it differs remarkably, not only in the rapidity of its extension and the general appearance presented by the parts affected, but more especially in the little disposition it manifests to limit itself by a line of demarcation or by any adhesive action."

The great practical point connected with traumatic gangrene is the question as to the admissibility of amputation. Whether Potts' doctrine, that we should wait until the line of demarcation has formed, or Larrey's advice to disregard this rule, should be followed, has, for a long time, been made matter of active controversy. Mr. Erichsen says:—

"In all cases in which the true traumatic or rapidly spreading gangrene has set in, the surgeon will be placed in a great difficulty whichever way he act. If he leave the patient to nature, in the hope of a line of demarcation forming, he will almost certainly be disappointed, the gangrene rapidly spreading up to the trunk; and if he amputates, he will probably lose his patient by the stump becoming affected. Yet amputation should, in my opinion, be performed at once."

This latter observation requires qualification. To afford any chance of success there is no doubt that the earlier amputation is performed the better; but we cannot in all cases operate early in one sense, that is, before the gangrene has spread very far; for sometimes its extension is so rapid that an entire limb will become involved in a few hours. The rule which should guide us in determining whether the operation ought to be performed or not should have relation not so much to the time the gangrene has been in existence, as to the character of the accompanying symptoms. The fact that this is a constitutional disease demands the greater regard to symptoms. It is not then the extent nor the duration of the gangrene we are to consider, but the general condition of the patient; this is such as rarely to afford the operation any prospect of success.

Injuries of Arteries; Hemorrhage.—Can anything be more beautiful or better calculated to impress the mind with the wonderful and beneficial designs of Providence than the contemplation of the method to which nature resorts for the arrest of arterial hemorrhage? The very circumstance which excites the fear of the individual himself, or the bystander, the supervention of weakness or fainting, is what most of all facilitates the means by which a temporary check is given to the bleeding, and which changes must occur before those which terminate in the complete occlusion of the vessel. The series of changes which take place in a large artery when divided transversely, from its retraction and contraction to its final oblitera-

tion, are truly wonderful, and afford a most attractive study to him who loves to investigate nature's laws. But it is not the physiological interest which attaches to this subject which is alone to be considered; the knowledge derived from the study of it has led to most important practical results. To Jones is undoubtedly due the credit of having clearly demonstrated most that is known of the laws which regulate the arrest of arterial hemorrhage; having, by a well-conducted set of experiments on animals established the true changes which take place from first to last, he cleared away all previous erroneous notions.

Mr. Erichsen gives a very clear and succinct account of the natural and artificial means of arresting hemorrhage, bringing before the reader in a small compass a considerable amount of matter.

Traumatic aneurisms which are so closely associated with the subject of hemorrhage are also described, and wood-cut representations are given of that very interesting form of varicose aneurism. The author very properly shows the difficulty attendant on the operation for the cure of varicose aneurism. Fortunately however, the operation is seldom called for, and we feel quite convinced that, unless from some circumstance it is positively demanded, it ought not to be attempted. We can refer to the case of a man who has had an aneurism of this sort in the left thigh for upwards of ten years, the tumour having remained stationary, and not interfering with his taking exercise in any respect.

Fractures.—In speaking of compound fractures Mr. Erichsen observes:—

"Those fractures must be looked upon as most unfavourable in which the wound is the consequence of the violence that breaks the bone, and in which there is much laceration of, and extravasation into, the soft parts; more particularly if the integuments are stripped off, portions of the muscular bellies protruding, and the planes of cellular tissue between the great muscles of the limb torn up and infiltrated with blood. Injuries of this description occurring in the lower extremity always require amputation. In the arm, they are not so serious, and admit of the member being saved, unless the bones be greatly comminuted."

We can only subscribe to this statement to a certain extent. It is true that if the soft parts be extensively torn, and the cellular tissue much infiltrated with blood, the case is bad, and always demands amputation. But it is necessary to draw a line of distinction between those compound fractures, which

must be condemned at once, and those where it is proper to endeavour to save the limb. In the latter cases it is not always those in which the integuments at least are much injured, which are apt to take the most unfavourable course; on the contrary, our experience leads us to consider that dangerous results are far more prone to occur where the wound is small, and particularly if it were produced by protrusion of the bone. Where the skin has been freely torn, or extensively injured by direct violence, the case for some days wears a very ugly aspect, but as soon as the sloughs have separated, healthy granulations spring up, and though the sore thus formed is often very extensive and attended with much suppuration, it is sometimes wonderful how rapidly the healing process is effected. With respect to secondary amputation in compound fracture, the author says:—

"*Secondary amputation* may become necessary from the occurrence of traumatic gangrene, when it must be done in accordance with the principles already laid down when speaking of that operation; but more frequently it is required from failure of the powers of the patient in consequence of irritative and asthenic fever, induced by the general disorganization of the limb, or by hectic resulting from profuse suppuration and slow necrosis of the bones. Under these circumstances, the constitution suffers from the local irritation which is the source of the wasting discharge, but by removing this in time, and seizing an interval in which constitutional action may have been somewhat lessened, the patient's life will in all probability be preserved; the results of secondary amputation for compound fracture under these conditions being by no means unfavourable. Indeed, it is remarkable to see how speedily the constitutional irritative and hectic symptoms subside after the removal of the source of irritation, the patient often sleeping well, and taking his food with appetite the day after the operation."

Space will not permit our dwelling upon the other subjects in the second division of the work,—injuries of the head and spine, chest and abdomen. The observations on each of these important points, though short—unsatisfactorily short, in some instances—are based on sound practical principles.

Third Division.—This part of the work commences with the subject of abscess:—

"Surgeons divide abscesses into various kinds according to the symptoms attending them, their duration and cause. Thus they speak habitually of *acute* and *chronic*, *hot* and *cold*, *lymphatic*, *diffuse*, *metastatic*, and *puerperal* abscesses."

The diagnosis of abscess is perhaps one of the most important points in practical surgery, and as no acquirement is more advantageous than acute perceptive powers in this respect, so there is none which should be more eagerly sought. Nothing so much displays the superiority of the well-educated and sagacious surgeon as the possession of this much-to-be-desired qualification. The capability of detecting deep-seated matter is of the utmost importance in the practice of surgery, and to accomplish this with quickness and precision must be viewed as a high perfection. The tactile sensibility necessary for such a purpose is possessed naturally by some, but almost all can, by practice, acquire it, and even those who are gifted with it by nature, should endeavour to refine it by education. The "tactus eruditus" has ever been considered as a qualification of the first order, and certainly, when the character of the surgeon's practice is considered, it becomes evident that without the possession of it his diagnostic capabilities must be of rather an inferior grade; and as regards many operative proceedings, a want of the necessary manual dexterity must be experienced. The author alludes to the fact that abscesses are apt to be confounded with solid elastic tumours. How often have malignant tumours been mistaken for chronic abscesses? Many a time has a lancet or trocar been plunged into a mass of cerebriform cancer, owing to the deceptive feel conveyed by the elasticity of the substance. The more acute the tactile sensibility, the less the chance of being led astray by delusive sensations. There is one natural source of deception not alluded to by the author, and to which it is necessary to pay particular attention, viz., the many sensations produced by the rolling about of muscles beneath the hands. In some situations, for instance, on the anterior part of the thigh, when alternate pressure is made on the muscles, a sensation is yielded, which is often with difficulty distinguishable from that of fluctuation. The error is very apt to be made in the gluteal region; matter is often declared to exist there when not a drop is present.

In disease of the hip-joint the tissues in this quarter become infiltrated, so as to produce considerable swelling, and there is, at the same time, tenderness on pressure; a deep-seated abscess, accordingly, is suspected, fluctuation is sought for, and the deceptive feel alluded to at once leads to a wrong conclusion.

"The *treatment* of abscess presents three points requiring attention. The first object should be to prevent the formation of matter; the next to take steps for its evacuation when formed; and, lastly, to endeavour to close the cavity that results."

The second point is chiefly to be considered with respect to chronic abscesses. The rule as regards the opening of acute abscesses is simple enough; not so the chronic,—whether they are to be opened at all or not,—if they are, at what period, and how it is to be done, are points of the greatest practical importance, and upon them the greatest discrepancy of opinion prevails. We regret the author has not recorded his views on this part of the subject.

A short account being given of ulcers and mortification, the next disease introduced to our notice is erysipelas. The great importance of this subject, in a surgical point of view, imposes a greater duty on the author's pen. He adopts the division of erysipelas laid down by Mr. Nunneley as the best, viz., into the "cutaneous, cellulo-cutaneous, and cellular:"—

"The *cellular erysipelas*, or, as it is often termed, *diffuse inflammation of the cellular tissue*, or *cellulitis*, is a disease that has been particularly described by Duncan, Arnott, Lawrence, and Nunneley. It always arises from a wound or injury, often, however, of an apparently trivial character, and most commonly affects the sub-cutaneous cellular membrane, though occasionally it extends to the sub-aponeurotic tissue, and then is a more severe and dangerous affection. Though commonly arising as a consequence of ordinary injuries, it is especially apt to follow those in which there has been any inoculation of animal poisons, as in dissection wounds, the stings of insects, and the bites of venemous reptiles. In whatever way arising, it is characterized by the rapidity and extent of the sloughing of the affected tissue, and by great depression of the powers of the constitution. That the diffuse inflammation of the cellular tissue, whether it is limited to a finger, or implicates the cellular membrane of half the body, is a variety of erysipelas affecting this membrane primarily, and the skin secondarily, there can be no doubt. The points of resemblance between cellulitis and erysipelas have been well shown by Nunneley. Not only are the local effects precisely the same in the two diseases; the same swelling, tension, infiltration of pus, and formation of gangrenous shreds and sloughs, but the constitutional symptoms, though differing perhaps in degree, present no variety as to character. The results also are identical, there being the same impairment of structure locally, the same tendency to involve parts at a distance, and to the formation of secondary abscesses. So also these two diseases occur in the same constitutions, in the same states of the atmosphere, and in the same situation; one form of disorder may produce the other, and, lastly, the same treatment is required for both affections."

The author's observations upon the treatment of this disease are well worthy of attention. The plan of employing depletion, which was formerly so much resorted to, he very pro-

perly dissents from. He says, "the apparent intensity of the inflamination should not lead the surgeon into the fatal error of employing an over-active antiphlogistic treatment." In truth, there are few cases of erysipelas to be met with which will even bear the withholding of stimulants, not to say the adoption of antiphlogistic measures; and in bad cases, accompanied by a very low asthenic state of system, the only chance of recovery is, by pouring in wine and brandy as freely as possible. Perhaps no greater improvement has taken place in the treatment of disease than the administration of wine in inflammatory diseases of a certain character, and the recognition of this principle has been of no less value in erysipelas than in fever. Formerly the idea of giving wine where inflammation existed would be viewed as an irrational, practical, and physiological contradiction, and this is natural enough, seeing that the disease was viewed only as one of plus vitality. Since, however, physiological research has established that inflammation possesses two distinct types,—that genuine inflammation may exist with diminished as well as with increased vitality, the advantage of wine, as a remedial agent, has been fully recognised. More lives, we are confident, have been saved by the free use of stimulants in the asthenic types of inflammation than have been lost by the non-adoption of depletory measures in the opposite forms.

The next subject treated of in the work, to which we shall direct attention is Aneurism. One chapter is devoted to the pathology, diagnosis, causes, and treatment of aneurism in general; the other, to the special forms of the disease, including a description of the operation for deligation of the main arteries:—

"When the arterial walls have undergone more or less fatty degeneration, whether that consist in the distinct deposit of atheroma, or in a sort of molecular deposit of fat globules in the tissues comprising their coats, their natural elasticity and resiliency become lost, proportionately to the amount of fatty change that has taken place within them. Hence as the artery becomes less and less able to contract on its contents, and to recover during the diastole the tension exercised on its walls during the systolic impulse, it gradually becomes distended by the repetition of the shocks which it sustains, and thus either complete or partial dilatation of its cavity takes place. I believe that this loss of elasticity and of power of contracting on its contents, which eventually results in the dilatation of the vessel, never occurs except as the result of previous disease of the coats. In the very numerous specimens of dilated arteries that I have examined, I have never found one that had not undergone fatty degeneration, or atheromatous deposition. Calcification, on the other

hand, rather prevents dilatation of the artery, by hardening the coats and converting them into rigid inelastic tubes; but atheroma softens them, and causes yielding of that portion of the vessel affected by it. I have frequently observed that the whole of the artery may be healthy except at one part, where there was an atheromatous patch, and that there the vessel was dilated; or that the whole of its coats might be calcified except at one spot, where atheroma was deposited, and where consequently the coats had yielded under the outward pressure of the contained blood. This general or localized dilatation of the arteries is termed *aneurism*, an affection that is, I believe, invariably dependent upon the coats having been softened, atrophied, and disintegrated by fatty degeneration, and consequently yielding to the eccentric pressure of the contained blood."

With respect to the "true sacculated aneurism," the author says,—

"The existence of *true sacculated aneurisms* has been denied; thus, Scarpa doubts the occurrence of such a disease, and Bizot seems disposed to coincide with him. With these eminent pathologists, however, I cannot agree, and though I am willing to admit that many of the so-called true aneurisms are not so in reality, yet I cannot doubt from repeated observation that Hodgson is right in saying that in their early stages aneurisms are not unfrequently of the true kind. Thus, we occasionally meet, as Dr. Peacock has pointed out, with small digital pouches springing from the walls of some of the larger arteries, through the whole of which the external, middle, and internal coats can be demonstrated by maceration to exist; and in those aneurisms which are formed by the dilatation of a comparatively large portion of the arterial wall, it not unfrequently happens that the tumour remains of the true kind for some time, as I have had occasion more than once to ascertain by careful dissection. But after an aneurism has attained a certain size, its coats become so fused together, and so closely incorporated with the neighbouring tissues, that their precise structure cannot be made out. Indeed, for a sacculated aneurism to be of the *true* kind, I believe that two conditions are necessary: 1st. That the tumour itself be small; and, 2ndly. That the mouth of the sac be of tolerably large dimensions. Porter says, that he has never met with a true aneurism larger than a small orange, and, certainly, none of those that I have seen, provided they were of the sacculated kind, have exceeded this size. In true sacculated aneurisms, also, it is necessary that the mouth of the sac, or that portion of it which communicates with the interior of the artery, should be of a good size, and not bear too great a disproportion to the wall of the tumour. I cannot conceive a large sac with a small mouth to be a true aneurism, for, as the mouth of the sac corresponds exactly in size to that portion of the arterial coats which have been originally dilated, it is not easy to understand how a large sac can be expanded out of a small segment of the wall of

the artery; though, as in all cases of true aneurism, however small they may be, the size of the sac greatly exceeds that of its mouth, it is clear that there must have been, not only expansion, but a degree of hypertrophy and over-growth of the wall of the vessel, just as in the tubular aneurisms."

We think there can be no doubt of the existence of a form of aneurism in which the sac is composed of all the coats of the vessel. We have in our possession a specimen of popliteal aneurism which affords a beautiful example of the true kind; all the coats can be distinctly traced from the vessel to the sac.

With respect to the treatment of aneurism by compression, it is gratifying to find that the author deals fairly and candidly with the subject.

Though this great improvement in modern surgery has not met with the decided opposition in England that it has in Scotland, still it has not, even at the present moment, taken a proper stand in the former country. It is true, that many cases of cure by compression have been reported from various parts of England; still it does not appear to have gained the full confidence of the profession. In Ireland, where the adoption of this plan originated, numberless cases have been cured by it; hardly a week passes by without the occurrence of some successful case to swell the statistical Table, so that not the smallest doubt can be entertained of its perfect adequacy to effect a cure, while its advantages over the ligature must become evident. It may be argued that the statistics of this method of treatment in England do not warrant the same conclusions; then we naturally inquire why this dissimilarity as to results should exist? To what cause is attributable the failures in the sister country? The answer is twofold,—first, all the details of the plan are really not yet perfectly understood;—second, there still exists, as it were, a latent prejudice against, or want of confidence in it, as a curative method, which prevents that degree of attention being devoted to it which is essential to the success of any undertaking; and it is only natural to suppose that if the practitioner exhibits a want of confidence in the plan adopted, the patient will not be likely to become differently inspired. If compression is to succeed, an accurate knowledge of its *modus operandi* is indispensable, combined with patience, perseverance, and constant watching. The author concisely expresses the very point which we wish to put prominently forward; he says:—

"The success of the treatment by compression depends greatly upon a scrupulous attention to a number of minor circumstances,

which, though trivial in themselves, become of importance when taken as a whole."

A description of the plan of compression is given which is as full, perhaps, as could be expected in a work of so general a character. The view taken of the relative merits of compression and the ligature corresponds exactly with our own, and is no more than was ever put forward by the advocates of the former method:—

"It should also not be forgotten that in some cases, such as when aneurism is complicated with heart disease, or occurs in a very broken and unhealthy constitution, in which the operation necessary for the application of the ligature would scarcely, or not at all, be admissible, compression may be safely employed."

The following observations on the diagnosis of carotid aneurism are worthy of attention:—

"From abscess of the neck the diagnosis must be made on general principles; the co-existence of ill-defined hardness and of enlargement of the glands, of an inflamed state of the skin, the ready detection of fluctuation, and the absence of expansive pulsation in the tumour, will show that it is not aneurismal, however similar its other characters may be. It is also of importance to observe, that an aneurism that fluctuates is always forcibly distended with strong pulsation, and can be materially diminished by pressure; neither of which circumstances can possibly occur in abscess. But if abscess may be mistaken for aneurism, the converse also holds good, and an aneurism may, unless care be taken, be mistaken for abscess; a far more fatal error. And there is one variety of false aneurism, that to which Mr. Liston has invited special attention, against which the surgeon must be carefully on his guard, on account of the many points of resemblance between it and aneurism; I mean the case in which an artery has given way into the sac of an abscess. In this case, fluctuation and pulsation will exist, although not, perhaps, of a distending kind. An important diagnostic mark will be, however, that the outline of an aneurism is distinctly defined and limited, while that of an abscess never is. Aneurism of the internal carotid has been found by Syme to simulate very closely abscess of the tonsils."

We fear we have dwelt too long on the preceding subjects to enable us to make even a passing observation on the many important points which follow; suffice it to say, that the author fully bears out, in the subsequent pages of the work, the high opinion he earned in our estimation from a review of the former:—diseases of the bones, joints, and rectum, hernia, urinary diseases and affections of the testis, are each dealt with in

the same sound, practical manner which characterizes his description of the diseases we have particularly considered.

We now close the pages of Mr. Erichsen's work, having derived no little instruction from it in many important branches of surgery, and we have no hesitation in recommending it as a valuable book alike to the practitioner and the student.

Dictionnaire d'Hygiéne Publique et de Salubrité, ou Répertoire de toutes les Questions relatives à la Santé Publique, considérées dans leurs Rapports avec les Subsistances, les Épidémies, les Professions, les Établissements et Institutions d'Hygiène et de Salubrité, complété par le texte des Lois, Décrets, Arrêtés, Ordonnances et Instructions qui s'y rattachent. Par le Docteur AMBROISE TARDIEU, Professeur agrégé à la Faculté de Médecine de Paris, etc. Paris and London: Hippolyte Baillière, 1852 et 1853. Vols. I and II. 8vo, pp. 567 and 532.

THE very comprehensive title of this work sufficiently indicates the variety and extent of the information it contains, and we need therefore scarcely say, that M. Tardieu has conferred a great boon not alone on his own countrymen, but on all in these islands engaged in the study of medicine in any of its medico-legal branches. The much higher position which State medicine holds in France, and the consequent greater advancement which it has attained, is well illustrated by a reference to any of the leading articles in either of the volumes of this as yet unfinished book. As soon as the concluding volume, which is announced for immediate publication, shall reach us, we purpose to bring under the notice of our readers some of the more important matters treated of; in the mean time we can most strongly recommend it as being complete and accurate, and as presenting a full review of the laws and history of all subjects connected with public hygiene.

PART III.

MEDICAL MISCELLANY.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

FOURTEENTH SESSION.—1853-54.

Caries of the Cervical Vertebræ.—Professor R. W. Smith exhibited a specimen of very extensive destruction by caries (most probably of a syphilitic nature) of the first and second vertebræ of the neck, taken from the body of a man about forty-five years of age, who died suddenly within a very short period after his admission into the Richmond Hospital.

The anterior arch of the atlas was carious throughout its whole extent, and its central portion, corresponding to the odontoid process, nearly altogether destroyed; its lower border, for a few lines in depth, alone remained, and this attenuated portion had given way by fracture. The inferior oblique processes were destitute of cartilage, and presented a worm-eaten aspect; that upon the right side was destroyed to a level with the remainder of the inferior surface of the bone. The tubercles which give attachment to the transverse ligament were both involved in the process of ulceration.

With regard to the second vertebra, the odontoid process, together with that portion of the bone from which it arises, remained; but all the rest of the body of the vertebra had disappeared. The odontoid process itself was superficially ulcerated and irregular in form. The left superior articular process was deeply carious, and the ulcerative action had extended to the inner boundary of the foramen which transmits the vertebral artery. Upon the right side the articular process was totally destroyed, together with the greater portion of the transverse process, so much so that upon this side, the vertebral artery, in its passage from the third vertebra to the atlas, was not transmitted through any foramen. The inferior oblique processes of the axis were anchylosed to the superior of the third vertebra, a small portion of the body of which upon the right side was carious.

The frontal, parietal, and occipital bones were diseased throughout the greater part of their extent, and their external surface presented a nodulated aspect, caused by circles of caries, isolating healthy portions of the osseous tissue; the ulcerative action had penetrated deeply, and in about thirty different situations both tables of the skull were perforated; in some places the inner table alone was destroyed, while in other situations the external only had sufferred; the morbid matter which filled the different excavations seemed to have been originally deposited in the diploe, and consisted of a soft, yellow, cheese-like matter. Some of the bones of the face were also carious. A diffused swelling occupied the back of the neck, and one or two small tumours, containing caseous matter, existed upon the head. The brain and its membranes were healthy.

The sudden death of this patient so very soon after his admission into the hospital rendered it impossible to obtain any accurate history of his case. Upon the evening of the day of his admission, when he retired to bed, there was nothing remarkable observed in his condition, nor did he complain of anything more than stiffness and pain in the neck. Early upon the following morning, while in the act of turning in bed, he was suddenly seized with a kind of convulsive attack, the most urgent dyspnœa set in, his countenance became congested, his lips livid, and he died in a few minutes.

The condition of the bones of the head and face, Professor Smith remarked, induced him to believe that the affection of the osseous system, under which this patient laboured, was of syphilitic origin. That the affection of the cervical portion of the spine was of very long duration was manifest from the circumstance of anchylosis having taken place between certain portions of the opposed surfaces of the second and third vertebræ, and to the destruction of the connexion between the atlas and axis is to be ascribed the sudden death of the patient, the first vertebra, with the head, having passed forward, so as to compress the spinal marrow between the posterior arch of the atlas and the front of the spinal canal.

It is incorrect to assign the displacement of the odontoid process (as many surgical writers are in the habit of doing) as the cause of the sudden death in these cases, for the destruction of the transverse or cheek ligaments leads to no luxation of that process (the connexion of the second with the third vertebra remaining entire), but permits of the displacement forward of the atlas along with the head. Even so careful a writer as Sir Benjamin Brodie has fallen into this inaccuracy, for at page 330 of the last edition of his valuable work upon the Joints, he remarks that "not unfrequently the transverse ligament of the second (first?) vertebra is destroyed, and the consequence is a dislocation of the odontoid process. Sometimes the dislocation is complete, and the patient, from the pressure made on the spinal cord, expires as suddenly as if the latter had been divided transversely."

The escape of the vertebral artery, in the midst of so much surrounding disease, is worthy of being mentioned. A specimen was,

for many years, preserved in the Museum of the Richmond School of Medicine, of caries of the cervical vertebra, in which the ulceration having extended to the transverse processes, opened this large vessel, and gave rise to a fatal hemorrhage.

Professor Smith concluded by referring to the remarkable cases of dislocation of the atlas from disease, recorded by Mr. Paget and Mr. Shaw, in the thirty-first volume of the Medico-Chirurgical Transactions, and also to that of exfoliation of the anterior arch of the same bone, published by Mr. Wade, in the thirty-second volume of the same valuable work.—*January* 14, 1854.

Chronic Rheumatic Arthritis of the Hip-Joint.—Professor R. W. Smith exhibited a most remarkable specimen of this disease, which he had removed from the body of a man, aged 85, who had been admitted several months before his death into the Richmond Hospital, labouring under a chronic ulcer of the right leg, which had been recently attacked with gangrene. He was a man of very large size and powerful frame, and struggled desperately against the constitutional effects of the mortification, which before his death (which occurred a few days ago) had spread over the entire of the foot and the greater part of the leg.

During the examination of the limb, shortly after his admission, an unusual prominence of the trochanter and general deformity and stiffness of the hip-joint attracted observation, but the patient evinced the greatest unwillingness to give any information respecting its cause or history; at length, however, it was with difficulty extracted from him, that he had joined the rebel forces in the year 1798, and had fought at the battle of Vinegar-Hill, where he was wounded by a musket-ball in the thigh, below the great trochanter, from the effects of which injury he was laid up for several months, and that during the whole of this time he was concealed in a damp cave in the mountains. From that period forward he was never free from uneasy sensations and occasional pains in the hip, from year to year his lameness increased, and the stiffness of the joint became greater, until at length all the usual signs and symptoms of chronic rheumatic arthritis became fully established.

When the joint was examined after death, the anatomical characters of this disease were found to be present in an exaggerated degree; the neck of the femur was to a great extent absorbed, and the head of the bone enlarged, flattened from above downwards, destitute of cartilage, and smooth and polished; it measured thirteen inches in circumference; numerous foreign bodies, partly osseous and partly cartilaginous, hung by slender membranous pedicles from beneath its irregular outline. The acetabulum had undergone corresponding alterations of form and size; the capsular ligament was greatly hypertrophied, being in some places upwards of an eighth of an inch in thickness, and within it was contained a very viscid fluid; the ligamentum teres and the ligaments of the notch had disappeared, and the osseous structures were intensely vascular.

The disease had likewise established itself in the right and left acromio-clavicular articulations; the enlargement of the articular surfaces causing the joints to assume very much the aspect of dislocation upwards of the outer end of each clavicle.—*January* 14, 1854.

Caries of the Temporal Bone; Abscess in the Brain.—Dr. Hutton said;—"The case I am about to lay before the Pathological Society is one of abscess in the brain, connected with disease of the temporal bone. The patient was a girl, aged 16, always lively and intelligent until her present complaint commenced, with this exception, that she was subject to sick headachs, the pain in the head increasing till she vomited, and then subsiding. At first these attacks came on at distant intervals, but twelve months ago, being much exposed to cold, and frequently sleeping in damp places, they became much more violent, and recurred every fortnight, the pain occupying chiefly the right side of the head. Three months before her admission she began to grow slightly deaf, and sometimes would ask her mother if she heard a noise in her ears, and constantly said that there were figures moving before her eyes. About the same time she began to grow dull and heavy, frequently falling asleep. She was taken to a dispensary for the deafness, andwas told there was a tumour in the ear, which should be removed. The liability of fungus arising from diseased bone to be mistaken for polypus of the ear, is manifest; here it was evidently mistaken for one; but, on examination with a probe, a sudden discharge of matter, mixed with blood, took place, after which the pain became much less. The discharge continued for two months, and then ceased, the pain at the same time increasing with great violence. Upon the 21st of January last, the discharge having returned, her suffering became somewhat less, but her spirits were extremely depressed; she seldom spoke, unless when asked a question, making signs for anything she wanted. Upon the 30th of January she was admitted into the Richmond Hospital; she remained all day in a half stupid condition, taking no notice of anything about her; when spoken to, her countenance assumed an expression of great perplexity; she seemed to comprehend the nature of the question, but to have forgotten the words necessary for her reply; she frequently employed wrong words, spoke always in a whisper, but distinctly and without difficulty; she referred her pain chiefly to the left eyebrow and temple; she never asked for food, and had not eaten anything for some days; she had never had convulsions, or loss of motion or sensation.

"She continued without any remarkable change in her condition until the evening of February 4, when she became very restless, working herself almost out of the bed, yawning widely and protruding her tongue. At the end of a few hours she died in convulsions.

"On removing the calvarium we found the dura mater over the convex surface of the brain healthy; the arachnoid somewhat vascular; on removing the brain some matter escaped from its base, very

fetid, and of a greenish colour. The middle lobe was fuller than natural, and its convolutions and sulci were effaced. The greenish discoloration extended over a considerable space, and the brain felt soft and yielded under the fingers, but in other parts appeared healthy. On making a section, an abscess was discovered, lined with a membrane and containing fetid green matter; it was an inch and three-quarters in length, and nearly the same in breadth; the brain around it was soft, but not vascular. On looking at the base of the skull, I observed a spot of the dura mater, corresponding to the roof of the cavity of the tympanum, discoloured, but still retaining its polish, and on endeavouring to raise it, I was rather surprised to find it adhering closely to the bone. On dissecting it away, I found the bone perforated by two small openings, through which a probe entered readily into the cavity of the ear. The friends of the deceased did not allow sufficient time for removing the diseased organ, so that I am unable to state anything about the state of the internal ear.

"It is evident, that in this case a fungus arose from the diseased bone, and that the membrana tympani was destroyed. Upon a former occasion I laid before the Society the particulars of a case in which there was considerable disease of the lining membrane, and otorrhœa to a great extent, but no disease of the bones; yet fatal disease of the brain ensued. This shows that otorrhœa, independent of diseased bone, is quite sufficient of itself to give rise to inflammation and abscess of the brain; but generally some part of the petrous portion is diseased, and we may expect that the locality of the abscess will correspond to the diseased bone. If the antero-superior portion is diseased, the abscess will, most probably, be in the middle lobe; if, on the contrary, on the posterior surface under the tentorium, the cerebellum will be diseased, and it may happen that when the part corresponding to the lateral sinus is diseased, phlebitis may arise, as happened in a remarkable case which Professor Smith brought before the Society many years since."—*February* 11, 1854.

Ulceration of the Larynx.—Dr. Fleming presented two specimens of disease of the larynx, and gave the following history of them:—The first case was that of Catherine Hand, aged 20, who applied at the Richmond Hospital, complaining of sore throat and considerable dysphagia, so that she could swallow only semi-fluid substances. She was also obliged to measure the quantity, or regurgitation would occur through the nares. She suffered from constant dyspnœa, with distressing cough and expectoration. She had the external features of the strumous diathesis. The whole right arch of the palate was destroyed by ulceration, and the fauces were more vascular than natural. On examining with the finger, only a remnant of the epiglottis could be felt. Ten months ago she caught cold, had sore throat and enlargement of the glands. Five weeks before her admission, she began to suffer from hoarseness and difficulty of swallowing. She never had any syphilitic affection. She was admitted August 3, 1853, not much emaciated, but suffering

from night sweats. The plan of treatment first adopted consisted of tonics and mineral acids, but as no improvement occurred, ten days after her admission mercury, combined with quinine, was ordered. Under this treatment, however, she did not improve. On the 23rd August, she got a sudden attack of dyspnœa, amounting to orthopnœa, with all the symptoms of acute laryngitis, which, however, yielded to treatment. I saw her in the evening, about 10 P.M.; she was then able to lie down, and expressed herself much relieved. The following morning I was surprised to hear that she was dead. She became suddenly worse in the night, and died without difficulty of breathing. During life considerable anxiety had existed relative to the state of her lungs, but we could not conclude satisfactorily as to the presence of tubercles; but the impression on my mind was, that the case was one of tubercular laryngitis, with latent phthisis, and under no circumstances would I have had recourse to operation. On examining the larynx, I found extensive disorganization, with complete destruction of the epiglottis and epiglottidean folds. The lungs were free from tubercle. There was partial suppuration of one of the bronchial glands, most probably owing to tubercular deposit.

The other case was that of a woman, aged 50, admitted September 17, 1853. She had previously been in hospital with anomalous symptoms, leading to the supposition of a syphilitic taint; articular pains, marks of previous ulceration and present ulcers in the throat. Under these circumstances there could be no second opinion as to the nature of her complaint. She got acute laryngitis in an aggravated form on the day after her admission. On the 20th the symptoms were very distressing, and death so nearly impending that it was deemed prudent to have recourse to operation, although the prospect of ultimate success was by no means favourable. She was removed to the operation table, and the first incision only was made, when all present were under the impression that death had ensued. She had ceased to breathe, the pulse could not be felt at the wrist, the countenance was livid, the surface cold; the trachea was opened, but there was no respiration. By means of electricity and artificial respiration, she was resuscitated. She survived the operation upwards of four months, and more than once we entertained a hope of ultimate success. In December she had improved so much that she could breathe freely through the larynx. The wound healed up to a mere fistula. Early in January she got an attack of acute bronchitis, with fetid expectoration, under which she sunk. On examination after death, we found the larynx and trachea ulcerated throughout their whole extent. The lungs did not present any morbid appearances, except those of bronchitis.—Dr. Fleming concluded by making some observations upon the cases in which laryngotomy was proper, and those where it would be better to have recourse to tracheotomy.—*February* 18, 1854.

Cancer of the Uterus.—Dr. Beatty detailed the following case, and exhibited the recent specimen:—A woman, greatly emaciated, was

admitted into the City of Dublin Hospital under Mr. Tufnell, suffering from hemorrhage from the uterus, and was transferred to me. The hemorrhage had recurred on several occasions, with severe lancinating pains in the loins, and down the back of the thighs; on examination it was ascertained that the uterus was in a cancerous condition, the os hard and rugged, and on being exposed with a speculum, well-marked cancerous ulceration was found to exist: at this time hemorrhage was the prominent symptom, and the repeated returns of it were averted by the introduction of fine muslin containing matico leaves moistened with ergot of rye. The disease ran its usual course, the patient becoming gradually weaker, but for the last few months of her life she had no hemorrhage of importance—a circumstance frequently observed in similar cases, the hemorrhage being most severe in the commencement, though the very opposite might be expected, the bleeding vessels becoming more numerous from the extension of the ulceration. Three weeks ago the urine, which had gradually diminished in quantity, became totally suppressed, till the day before yesterday, when she died. Though not expecting to find urine in her bladder, I introduced a catheter, and drew off a few drops of a dark bloody fluid, but no urine. About ten days before her death she was attacked with severe spasmodic pain in the left side of her chest, with great dyspnœa, and a fluttering pulse. The pain was only slightly relieved by treatment, and she sank under well-marked pericarditis. On examining the body we found an explanation of the unusual way in which she died. The ordinary causes of death in this disease are, irritative fever, hemorrhage, exhaustion, peritonitis from the ulceration extending to the peritoneum, or enteritis; but in this case death arose from none of these, but from a cause which I have observed in one or two other cases. There is a preparation in the College of Surgeons Museum similar to that which I now exhibit; and I had lately a lady under my care, who died in the same way. I find no mention of it in any of the authorities, and therefore I think it of importance to dwell on it. The disease commenced in the cervix uteri, and on opening the abdomen we found the uterus not much larger than natural, but excessively hard, and closely attached to the bladder, while on the side there was extensive cancerous development. On opening the bladder it was found that the cancerous degeneration had extended to it from the anterior wall of the cervix uteri; the ulceration was limited to the uterus; none of the usual fungous protusions were found in the vagina. The peculiarity of this case consists in the extension of the ulceration to the mouths of the ureters, so that the renal secretions could not enter the bladder, consequently the ureters became greatly distended; on one side two ureters existed. In consequence of this obstruction the urine entered the circulation; in such cases the patients generally die comatose, except where the extension of the ulcerative process again gives exit to the urine, which then comes away in a deluge. In this case, however, the effusion took place not into the brain, but into

the pericardium, which contained nearly a quart of fluid, dark coloured, thin, and serous. Both surfaces of the pericardium were covered with recently deposited lymph.—*February* 25, 1854.

Rupture of the Chordæ Tendineæ.—Dr. Gordon related the following interesting case of this lesion:—A woman, aged 26, was admitted under my care into the Whitworth Hospital, with violent hemoptysis, and gave the following history of her illness:—she had led a very intemperate life, and had suffered for a long time from palpitation and uneasiness of the heart. Three months before admission she was seized with violent pains in the epigastrium, so severe that she fainted, and did not recover for some time; she always had since then violent palpitations. She had two or three attacks of hemoptysis. She was very pale and blanched, and was labouring under all the symptoms and physical signs of permanent patency; she had plainly visible pulsations in the extremities, and *frémissement* at the root of the neck and over the pericardial region, where there was audible a most intense *bruit de soufflet;* I could not say where this *bruit* was most intense; it was audible over the whole chest anteriorly, and even posteriorly. I stated that I thought it was a case of permanent patency, but from the sudden and violent pain in the region of the heart, followed by intense palpitation and weakness, and from the decided character of the *bruit* and *frémissement* I thought there was a rupture of the chordæ tendineæ of the heart. The woman lived ten days after her admission, and then sank. On examination I found very slight disease in the aortic valves; there was a slight deposit on the central valve; several of the chordæ tendineæ of the anterior portions of the mitral valve were ruptured, and covered with a soft cheesy matter. On taking out the heart it presented somewhat the appearance of a case of well-marked permanent patency, the thickness of the walls being considerable; the apex rounded off, and formed completely by the left ventricle; there seemed to have been slight endocardial inflammation, followed by rupture of the chordæ tendineæ, and this by the effusion of lymph which lay in great quantities loose in the ventricle. The difficulty is to account for the physical signs so closely simulating those of permanent patency. The visible pulsation was very well marked, and the *bruit* was audible in the arteries of the neck. The most probable explanation is that the blood of the left ventricle was allowed to regurgitate through the ruptured valve into the left auricle. The left auricle was greatly dilated. The immediate cause of death was pulmonary apoplexy.—*February* 25, 1854.

Cancer of the Stomach.—Dr. Lees exhibited a specimen taken from the body of a patient who died in the Meath Hospital, into which he had been admitted deeply jaundiced. For the last two years he was subject to dyspepsia. Last July he began to suffer from dysphagia, felt chiefly in swallowing solids, and referred to the xiphoid cartilage. This was followed by vomiting soon after eating; on several occasions the matter vomited was of a dark colour. After

a short time he began to complain of pain in his chest, which gradually extended to the right hypochondriac lumbar regions. In December last he became slightly jaundiced, and gradually more so up to the period of his admission, at which time the skin was of a deep green olive colour. When admitted he was very emaciated, had sickness and vomiting in the mornings before taking food. There was slight enlargement of the liver, but no irregularity of its surface. The alvine discharges were devoid of bile, but the urine was deeply tinged with it. The matter vomited, when examined under the microscope, was found to contain mucus mixed with bile, oil-globules, granular cells, with included nucleated cells, evidently malignant, and blood globules. The urine was deeply tinged with bile, and contained a very dark sediment, consisting of granules, not soluble in a solution of liquor potassæ, and mixed with cells of renal epithelium deeply tinged with bile. On the applications of heat the urine coagulated with a flaky precipitate, not albumen. The biliary matter contained in the urine was composed chiefly of cholic acid, and a small proportion of its colouring matter (or bile pigment). This fact Dr. Lees considered was of importance as bearing on a statement made by Dr. Jones in a late volume of the Medico-Chirurgical Transactions, viz., that the dark colour of the urine is merely due to the presence of pigment cells, and not of cholic acid. The jaundice became deeper, and the emaciation increased; the vomiting was checked by bismuth and soda, but he complained of violent rheumatic pains. Dr. Lees considered the case to be one of cancer of the liver, and that the pains were those of cancerous rheumatism.

Post-mortem Examination.—The liver was enlarged, of a deep olive colour, its surface smooth; there were small cancerous depositions in the left lobe; the gall bladder was distended with bile, and the hepatic duct greatly dilated. On the under surface of the liver was a large amount of cancerous deposit; the stomach was adherent to the liver, and its cardiac orifice was surrounded by an enormous cancerous mass, and along its lesser curvature there was a large perforation. The mesenteric glands were in a state of cancerous degeneration. He had no symptoms of pulmonary disease, yet underneath the serous membrane were small white deposits surrounded with vascular areolæ.—*March* 11, 1854.

Pulmonary Concretion.—Mr. Hamilton exhibited a very remarkable specimen of pulmonary concretion, which had been coughed up by a lady, aged 22, whom he had been called to see; he found her spitting up blood, and suffering from intense dyspnœa and severe cough, at times resembling hooping-cough; beside her was a basin containing several ounces of pure blood. At intervals she had returns of the hemoptysis, cough, and dyspnœa, and at last, during one very severe attack, she felt something hard in her mouth, and expectorated the concretion now before the Society. After this she passed a quiet night. During the paroxysm, Mr. Hamilton ex-

amined her chest; it was everywhere clear on percussion, but on the right side, where she complained of deep-seated pain, the respiration was very feeble, as if the air was prevented from entering the lung by some obstruction, as in aneurism. She died of phthisis eighteen months afterwards. The concretion resembled a piece of finely-branched coral, and formed a mould of the smaller bronchial tubes; from its size it would have been deemed impossible that it could have been forced through the rima glottidis.—*March* 18, 1854.

Ulceration of the Trachea and Intestines.—Dr. Gordon exhibited recent specimens of tubercular disease of the trachea and intestines, taken from the body of a man, aged 34, who had been in hospital during the last four months with symptoms of gastric disease; he complained chiefly of a sense of heat in the stomach, and vomiting after meals. He was successfully treated for subacute gastritis; the vomiting ceased, and he then began to complain of cough. On examining the throat the pharynx was found covered with small superficial ulcers; the vomiting soon recurred with well-marked hectic, but at first there were none of the physical signs of phthisis, except that the respiratory murmur was not perfectly clear. His voice was hoarse. He never had hemoptysis, nor other symptoms of pulmonary disease. He died rather suddenly on Sunday last. On examining the larynx we found the epiglottis ulcerated superficially, and much thickened, and the mucous membrane of the larynx ulcerated deeply. In the trachea there was the usual redness, extending into the bronchial tubes, with numerous small superficial ulcers. The lungs were thickly studded with tubercles. During his illness in the hospital the man had no symptom (with the exception of vomiting) of disease in the abdomen, yet the dissection showed the mucous membrane of the whole intestinal tube crowded with ulcers, except that of the duodenum and rectum. They presented the usual characters of glandular ulcers.—*March* 18, 1854.

Scirrhus of the Pancreas and Liver; Ulceration of the Gall Bladder.—Dr. Lees exhibited specimens taken from the body of a man, aged 58, who, in August last, began to suffer from dyspeptic symptoms: his urine became of a brown colour, he vomited soon after eating, and became gradually jaundiced, and after some time he perceived a swelling in the right hypochondrium.

When he was admitted into the Meath Hospital, he was of a deep olive-brown colour, and greatly emaciated. He complained merely of dyspepsia, flatulence, and a sensation of cold in the lower part of the back. The urine contained cholate of soda. On Friday last he was seized with severe pain in the abdomen; it continued at intervals throughout the night, and in the morning he was in a state of collapse, and the abdomen was much swollen. He referred the pain to the epigastrium at first, but it soon extended over the whole abdomen. He had no vomiting from the time of the first attack till his death, which took place this morning.

On opening the abdomen a large quantity of fetid gas escaped.

The right lobe of the liver was congested, and contained two small cancerous tubercles; the gall bladder was much distended, and perforated on its posterior surface by an ulcer the size of a four-penny piece, thus allowing the bile to pass into the abdominal cavity. The ductus communis was found almost as large as a small intestine; the cystic duct much dilated; and the pancreas forming a large, hard, scirrhous mass, pressing on the common duct at its termination.

Dr. Lees felt uncertain whether the tumour detected during life was caused by the liver being pushed forward by the distended gall bladder (as it felt firm, like an enlarged liver, and not giving a sense of fluctuation), or whether it was owing to the gall bladder itself extending below the umbilicus, and filling up the right hypochondrium. The ulcer of the gall bladder resembled the chronic ulcer of the stomach, the mucous coat being extensively removed, while there was only a very small opening in the peritoneal tunic. There were some clots of blood on the edge of the ulcer; the man had passed blood on several occasions from the bowels.—*March* 18, 1854.

Tubercular Meningitis.—Dr. Lees communicated the following case, and laid the recent specimens before the meeting :— A man, aged 35, was lately admitted into the Meath Hospital, labouring under headach, and having the stupid, oppressed look of a person in the early stage of fever. When I saw him upon the morning after admission, I was told that he had passed a restless night, not raving, but constantly walking about, very cross, apparently out of his mind, and making water about the ward during the night. He would not answer any questions, and would not protrude his tongue, although appearing to be quite conscious of everything around him. He had no heat of head. There was no increased action of the vessels of the neck, nor congestion of the eyes, but the pupils were slightly dilated; pulse 56 and small, action feeble, but both sounds distinct. His head was shaved, purgative medicine administered, and he was put on mercury, &c. Next day his pulse was 42. All this time, though perfectly conscious, he was unwilling to answer questions, or to be disturbed, pulling up the bed-clothes, and catching them in his teeth, but not covering up his eyes as if the light was unpleasant. Upon the fourth day after his admission his pulse was only 45, but upon the eighth day it rose to 118, and for the first time a loud murmur was heard over the heart; there was an evident wavy pulsation in the precordial region. On examination with the stethoscope a loud single murmur was heard, very superficial, and made more distinct by pressure, both at the base and apex of the heart; it appeared to follow the first sound. There was a friction sound in the right pleura. The man died two days afterwards, without coma or convulsions. The urine contained an excess of alkaline phosphates, confirming an observation of Dr. B. Jones, that these phosphates are in excess in cases of cerebral disease. The brain was congested, and the ventricles distended with fluid; the central parts of the brain were diffluent, like thick cream.

The membranes at the base of the brain were vascular, and studded with very minute tubercles, especially about the decussation of the optic nerves. On examining the heart, we found the pericardium vascular in several places, and the surface of the heart studded with granular lymph over both ventricles; the lungs were greatly congested, and the pleura covered with granules, which I consider to be tubercles. The apex of the left lung was studded with miliary tubercles.—*March* 25, 1854.

Dislocation of the Spine.—Dr. Hutton exhibited a well-marked example of this rare form of injury, taken from the body of a man about thirty-five years of age, who, while driving home late on last Saturday night in a taxcart, was thrown into a ditch; he fell upon his head, his neck being doubled under him. He was carried home in a state of insensibility, but next morning he became quite collected; but the lower extremities and the body, as far up as the axillæ, were paralyzed; there was also some impairment of motion and sensibility of the upper extremities; the fingers were flexed and could not be extended, neither could he extend the forearm; he lay flat upon his back and made no complaint, except of pain in the lower part of the neck whenever he was moved. The bladder was distended, the respiration was completely diaphragmatic, and, during each act of inspiration, the capacity of the thorax, although enlarged in the vertical direction, was diminished in its transverse diameter, in consequence of the paralyzed condition of the intercostal muscles. His pulse remained at 62 throughout; his breathing became gradually more embarrassed, from his inability to expectorate the mucus which was collecting in the bronchial tubes. On Tuesday he began to vomit a greenish matter, and died on Wednesday.

Autopsy. — Upon removing the muscles from the vertebral grooves, a space was observed between the fifth and sixth cervical vertebræ, through which the theca vertebralis could be seen; the superior articular processes of the sixth vertebra were also exposed, the fifth having apparently been drawn upwards and forwards, during the forcible and violent flexion of the neck at the time of the accident; the intervertebral substance was torn through, but there was no fracture of the body of either vertebra; the right transverse process of the sixth was fractured, but the lesion had all the appearance of having been caused during the removal of the spinal column. The injury was, beyond any question, a true luxation or diastasis. The theca and posterior vaginal ligament were uninjured, but a small clot of blood existed between them.

The external aspect of the cord was normal, but at the seat of injury it felt soft and pulpy, and when a longitudinal section was made of it, a coagulum was found in its centre, and the medullary tissue was softened around it and discoloured.

Before concluding, Dr. Hutton alluded to the striking resemblance which this specimen bore to that exhibited upon a former occasion by Mr. Adams, in which, besides a fracture of the body of the sixth dorsal vertebra, there was a true luxation between the

fifth and sixth cervical[a]. In this instance, also, the cord exhibited externally but little alteration in its appearance from that which is normal, but when a section of it was made, corresponding to the seat of the displacement, ramollissement of the medullary structure was found to have occurred.

Dr. Hutton finally alluded to the cases of the injury in question recorded by Lawrence[b], Dupuytren[c], Samuel Cooper[d], Lasalle[e], Liston[f], Norris[g], and Miller[h], and also to that recently published by Mr. Butcher[i].—*March* 25, 1854.

Polypus of the Uterus.—Dr. Beatty exhibited a large uterine polypus, which had been removed by the ligature. The patient, about forty years of age, was a married woman, but never had a child. She was admitted into the City of Dublin Hospital in February last in a state of utter exhaustion from loss of blood, her pulse was weak and fluttering, and her eyelids, feet, and legs were swollen. No examination was made for a few days until her strength was a little restored; she was then placed upon the table, and, upon examination, the vagina was found filled with a large dense tumour, extremely hard, and resembling very much an inverted uterus; it was so large that it could not be included in a four-bladed speculum, and its neck so thick, that the uterus could not be reached. A ligature was passed round it and tightened daily; the ligature broke upon the fifth day, and the instrument came off. Three days afterwards, on proceeding to apply another ligature, Dr. Beatty found that the tumour had come away; the constriction had been sufficient to destroy the vitality of the polypus, though not to cut it through; the sloughing process continuing after the yielding of the ligature had caused the separation of the entire tumour. The woman left the hospital perfectly restored to health.—*March* 25, 1854.

Emphysema.—A remarkable example of this disease was exhibited by Dr. Banks, who gave the following account of the case:—

A man, aged 27, was admitted into the Hardwicke Hospital on the 25th of last month, and at that time laboured under a slight degree of fever. On the third day after admission his respiration became exceedingly hurried and oppressed, so much so that he was unable to lie down, and his face became livid, with an expression of great distress. The most minute examination of the chest failed to detect any abnormal dulness, but dry bronchitic râles were audible over its whole extent. The pulse became extremely rapid, and the respiration was more than proportionately increased in frequency. Over considerable portions of the chest moist râles very soon took the place of the dry, evidently in the smaller tubes. The breathing became more and more oppressed, and on the 5th of this month he died. The symptoms were those of capillary bronchitis. On examination after death the surface of the lungs presented a most beautiful appearance, some-

[a] March 29, 1848.
[b] Medico-Chirurgical Transactions, vol. xv.
[c] Leçons Orales.
[d] Surgical Dictionary.
[e] Gazette Médicale, 1841.
[f] Lancet, 1837.
[g] American Journal of Medical Science, 1841.
[h] Practice of Surgery.
[i] Dublin Quarterly Journal, 1853.

what resembling the spotted skin of a leopard. The lungs were almost universally emphysematous; immediately over the heart there was a small portion of lung completely solid, and in various other situations there were portions similarly altered. The condensed parts were tough, violet-coloured, and their section non-granular,—an example of the state of lung termed lobular pneumonia, atelectasis, *état fœtal*, collapse, &c. &c. The anatomical characters of intense bronchitis were present, and a white glairy fluid was found filling the minute ramifications of the tubes. One of the aortic valves was cribriform; water poured into the aorta flowed freely into the ventricle. The specimen illustrates the views put forward by Dr. Gairdner of Edinburgh respecting the genesis of emphysema. The course of events, according to this author, is capillary bronchitis, producing bronchial accumulations and obstruction. Collapse follows the obstruction of the bronchial tubes, and emphysema occurs as its consequence. Dr. Gairdner has reviewed the theories brought forward before his time, and has satisfactorily shown that the blocking up of a bronchial tube, and the consequent retention of air, produces effects the opposite of what Laennec supposed; in this opinion he is supported by the observations of Fuchs, and the experiments of Mendelsohn and Traube, who found that the obstruction caused by a slug impacted in the bronchus of a rabbit produced atrophy of the corresponding lung. According to this distinguished pathologist (Dr. Gairdner)—"It may be safely assumed that emphysema is an *increase in volume* of those portions of the lung to which the air has access, to supply the place of *diminished volume* in those parts from which it is excluded."

Aneurism at the Base of the Brain.—Dr. Mayne exhibited a specimen of this rare disease, which had proved fatal by rupture of the sac; but as the case (which was accurately observed during its entire progress) will be given in full hereafter, it is now merely placed upon record.—*April* 8, 1854.

Sanguineous Tumour of the Bones of the Head.—Professor R. W. Smith exhibited the cranium of a man about forty-five years of age, who presented himself at the Richmond Hospital in October last, to have the hemorrhage arrested from an incision that had been made into a tumour upon the head. He had been for some time complaining of pain in the right side, headach, and general dyspeptic symptoms, but he was not aware of the existence of the small tumour upon the head, which was accidentally discovered by the medical gentleman under whose care he had placed himself, and who, having distinctly felt fluctuation in it, and supposing it to be a small abscess, made an opening into it, when nothing but blood flowed out. The hemorrhage was considerable, and having continued for such a length of time as to alarm the patient, he came to the hospital, when the bleeding was arrested by the pressure of a compress and roller. After a few days these were removed, but shortly afterwards the blood gushed out afresh, and was again checked by the same means. When the compress was removed the second

time, the incision was found to have healed perfectly, and nothing remarkable occurred for a few days, but then the tumour became as large as it had originally been, and presented an obscure pulsation, but with a feeling of fluctuation so very decided, that the resident pupil, who had charge of the case, thought himself justified in making a puncture into it; the result was the same as on the occasion of the first opening of the tumour—blood alone was discharged; it gradually, however, ceased to flow, but the wound soon presented an unhealthy aspect: febrile symptoms showed themselves, and erysipelas, commencing about the tumour, spread over the entire of the head, and under this attack the man sunk about a fortnight after the first puncture had been made.

Upon examination *post mortem*, there was found in the right lobe of the liver a large, white, encephaloid tumour; it was not circumscribed, but gradually lost in the surrounding tissue of the organ. All the other viscera, both of the abdomen and thorax, were healthy.

Beneath the tumour of the scalp, in the parietal region, which had been punctured, the bone had been absorbed, and the cranium perforated by an aperture, the circumference of which was as large as that of a sixpence; it was filled by an exceedingly vascular growth, the basis of which seemed to be areolar tissue, the cells of which were filled with blood. In many other parts of the cranium similar perforations, and similarly occupied, existed; some of these vascular growths adhered to the dura mater; the brain was healthy, and no sign of inflammatory action was visible in its membranes. The disease which thus destroyed the osseous tissue evidently originated in the diploe, but it is very difficult to pronounce with certainty as to its exact nature, although the coexistence of an encephaloid tumour in the liver renders the probability very great that the cranial tumours were malignant, and supports the suggestion hazarded by Mr. Stanley, that the sanguineous tumours of bone may be a variety, or the incipient stage of encephaloid disease. —*April* 22, 1854.

Congenital Luxation of the Radius.—Professor R. W. Smith exhibited a striking example of this malformation, taken from the body of a man who died lately in the Richmond Hospital of secondary syphilis, affecting the osseous system extensively. The neck of the radius was so far elongated as to place the head of the bone on a level with the summit of the olecranon process. There was no capitulum to the humerus, nor any vestige of its having ever existed. The head of the radius, surrounded by a fibrous tissue, in the form of a capsule, rested against the outer surface of the humerus; its upper surface was convex, and to its centre was fixed a bundle of fibres, like a round ligament, and derived from the interior of the capsule above alluded to. Professor Smith said he would not now dwell upon the subject of congenital luxation of the head of the radius, having considered it fully at two former meetings of the Society[a].—*April* 22, 1854.

[a] January 12, 1850, and December 20, 1851.

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.

SESSION 1853–4.

(*Continued from* p. 246.)

Third Meeting, 31st of January, 1854.

Dr. Beatty made some remarks relative to the administration of chloroform in practical midwifery[a].

Dr. Atthill read a paper upon the exhibition of chloroform in puerperal convulsions. He was aware that this agent had been extensively used by many practitioners in such cases, and, according to some, with universal success; yet he feared that in these cases its power had been overrated, and that while it acted sometimes most beneficially, the experience gained from its administration in the Rotundo Hospital forbade its indiscriminate use, or a too implicit reliance to be placed upon it in eclampsia. Dr. Atthill then detailed the following cases:—

"M. B., aged 18, first pregnancy; without the slightest premonitory symptoms, was seized with convulsions in the second stage of labour. After the first fit chloroform was administered by inhalation. She had, however, two more seizures while under its influence, the only appreciable effect of the drug being the lessening of their severity. The forceps were applied, and the child delivered alive; she was now permitted to recover from the influence of the anæsthetic, but shortly after the expulsion of the placenta, another fit coming on, it was again administered, and with good results, as there was no further attempt at convulsions afterwards. This woman recovered without a bad symptom."

"E. M., aged 21, first pregnancy; convulsions set in when the head was almost pressing upon the perineum; after the second fit chloroform was given, and in this case, though the fits seemed to have been cut short by the chloroform, yet their recurrence was not prevented. The pains continued strong, and labour was soon terminated by the natural efforts. In the interval she had eight attacks, but they ceased immediately after delivery."

Here, as well as in the last case, the only effect the chloroform seemed to produce was to render the fits less severe; in both cases they continued till after delivery, and then ceased; in both cases also, no other remedial agent was had recourse to. This woman subsequently became maniacal.

The next case, Dr. Atthill believed, would prove still less satisfactory.

[a] Dublin Quarterly Journal, vol. xvii. p. 355.

"M. W., aged 36, entered hospital in her second labour; as far as could be learned, her first was perfectly natural. On admission she did not attract any unusual attention, but in a short time began to complain of intense pains in the epigastrium, and sickness of the stomach, which she attributed to the fact of her friends having made her swallow some whisky punch prior to her leaving home: at this time the os was one-half dilated: the labour proceeded slowly till the head was just on the perineum, when she was seized with a convulsion. Chloroform was at once administered, and delivery effected with the forceps; she now proved to have twins, and the second, being also a head presentation, was turned and extracted alive. Chloroform was now discontinued, but after an interval of about twenty minutes, another fit coming on, it was again exhibited, yet without any benefit; she became very restless and unmanageable; a bolus of calomel and jalap was now given, and notwithstanding that the influence of chloroform was still kept up, a third fit succeeded after about an hour's interval. This seizure was the most severe she yet had. The chloroform was again discontinued. On recovery from this last fit, she became more conscious than she had been in the previous intervals, and was able to answer questions; the fits, however, continued to recur every hour, and notwithstanding the other measures had recourse to in connexion with the chloloform, such as bleeding, mercurial purgatives, enemata, &c., she died twenty-fours hours after delivery.

"It was subsequently discovered that this patient had two or three slight fits prior to her admission, and it is worthy of remark, that on passing the catheter during the evening prior to her death, the urine, of which there was about half a pint, was mixed with blood, whether from the bladder or kidneys could not be determined, inasmuch as it was impossible to obtain a post-mortem examination."

The following case Dr. Atthill considered not much more encouraging.

"A. Q., aged 19, was brought into hospital at ten o'clock one morning, in a state of complete unconsciousness, having had three fits of convulsions prior to admission; the first stage of labour had not progressed one-third; head presentation; both her upper and lower extremities were œdematous; her urine albuminous, and the rectum greatly loaded. She was at once bled to twenty ounces, her head shaved, five grains of calomel placed on her tongue, and a brisk terebinthinate enema soon after administered. The pains continued to return regularly, and at two o'clock P.M. she gave birth to a living child. Immediately on its birth she had a fit of such severity that it was thought she would have expired in it. On recovery, the inhalation of chloroform was commenced, but it had not the slightest effect in checking the return of the fits, or in lessening their severity. Other treatment was then employed, such as blistering the scalp, cupping the nape of the neck, and subsequently the exhibition of morphia, yet the fits continued to return at shorter intervals, and

she expired forty-four hours after delivery, having had in that period fifty-one fits. On post-mortem examination nothing abnormal could be discovered."

The next case Dr. Atthill noticed was that of M. A. D., aged 30, first pregnancy, still wanting a fortnight of full term; when she applied for admission, it was observed that some œdema of the upper extremities was present; that the lower were enormously swollen; and that the abdominal parietes were also infiltrated with serum; the uterine tumour was very large, and she was so helpless that she could not move without assistance. Purgatives were freely used, but the next day she was seized with convulsions; she was then largely bled, and other measures adopted suitable to her case; after having had fourteen fits, she was put under the full influence of chloroform, and while in this state a grain of morphia was laid upon her tongue; this treatment was productive of most marked benefit, for she fell into a quiet sleep, and the fits entirely ceased; but that this state depended altogether upon the chloroform would be hardly possible to say, since morphia was administered at the same time, and other remedies used prior to its exhibition. During all this time there was no attempt at uterine action, nor did it set in till forty hours after the first convulsions; the labour was easy and natural, and of nine hours' duration; she had no fit subsequent to delivery, but she was at intervals slightly maniacal. On the following day she complained of acute pain in the right side of the chest, and vomited constantly; treatment failed to relieve her, and she died the day after these symptoms set in. The autopsy displayed Bright's disease of the kidneys, and a liver enormously enlarged, soft, and friable, presenting on its surface several large irregular depressions of a bright yellow colour, apparently the result of total disorganization of its structure in these particular regions. Though this case terminated fatally, Dr. Atthill considered that it was in some respects satisfactory, inasmuch as the patient did not die from any puerperal causes, and the treatment in combination with the chlololform was evidently beneficial; but from the fact of morphia having been given along with the chloroform, it was impossible to arrive at a conclusion as to how far the chloroform alone was useful.

In the following case, he thought the most happy effects were due to chloroform by itself.

"E. C., aged 28, strong and plethoric; at admission both upper and lower extremities were œdematous, the former especially so; she was then in labour: first stage two-thirds advanced; parts relaxed and moist; everything went on well till the head became engaged in the pelvis, when she was seized with most violent convulsions; she was at once bled to twenty ounces, after which she became partially conscious, but was soon seized with another fit of greater severity than the former. The head being low in the pelvis, the forceps were at once applied, and the child delivered alive without difficulty; a bolus of calomel and jalap had been previously given, and a purgative enema was subsequently thrown up, but the bowels remained un-

moved; after the lapse of an hour she had a third fit, as severe as the previous one, and they continued to return every hour; the pulse being still full and strong, she was again bled to twenty ounces; two attacks occurred after this second bleeding, making a total of ten fits in eight hours; and with the exception of a few minutes after the first seizure, she remained perfectly unconscious during the intervals. It was now determined to try chloroform, and she was accordingly placed under it, and the influence was maintained for four hours, during all which time she had no return of the convulsions; a full opiate was then administered, and the chloroform was withdrawn; she slept quietly, the next day she was partially rational, but on the fourth after delivery slight symptons of mania showed themselves, which, however, readily yielded to full opiates."

Dr. Atthill remarked that the convulsions in this case did not yield to bleeding, but the moment that chloroform was administered they ceased entirely. He said that had this case been considered by itself, he might have been induced to look upon chloroform as a certain remedy against this serious complication of labour. It was, however, preceded by five other cases, in two of which the only effect of the anæsthetic was to render the spasms less severe, without hindering their return, and in two others it certainly was productive of no good at all. In these latter the impression on his mind was, that it even rendered the patient more restless, though apparently productive of no actual harm; and that he, therefore, as yet, looked upon chloroform as a doubtful remedy in these kind of cases, and not to be administered indiscriminately; but that without doubt it was suitable to a certain class of convulsion cases, and so the question arose—"How are we to distinguish the cases suitable for chloroform?" or "What are the indications for its use in eclampsia?" and this question, he confessed, he was unable to answer; yet it was important to remember, that in the two successful cases which he had detailed, each patient had been largely bled some time prior to the inhalation of the chloroform. Dr. Atthill thought he had come to the conclusion that chloroform should not be used in true puerperal convulsions until venesection had been performed, unless manifestly forbidden from some other cause. He also considered it worthy of remark, that in the first of the two last-mentioned cases, viz., that in which morphia had been administered along with the chloroform, the patient was in an advanced stage of both renal and hepatic disease,—therefore organic disease of these organs did not necessarily contra-indicate its use.

Dr. Atthill was not prepared to give any explanation as to the *modus operandi* of chloroform in cases of puerperal convulsions, but it seemed possible to him that its action was very similar to that of opium, at least he had seen cases in which morphia in large doses produced like effects, of which the following was an example:—M. H., on her admission into hospital, was quite insensible, having had three fits of convulsions prior to admission. Her legs were œdematous; the rectum loaded with fæces; the pulse 85, hard and

full. She was at once bled to twenty-four ounces, and a bolus of calomel and jalap got down. This was at 2 P.M. on the 14th of April, 1853. Notwithstanding this treatment the fits continued to return every half-hour. At 8 P.M. she was again bled to twelve ounces, and as there was not the slightest effect at dilatation, she was subjected to the douche (tepid). This had the desired effect, for labour set in soon after, 11 P.M. She had sixteen fits prior to the commencement of dilatation. A grain of morphia was now laid upon her tongue, after which she slept a little, and though the pains came on regularly, she had no return of the convulsions till 4 A.M., when the head began to enter the brim. At 7 A.M., it being within reach, the forceps were applied, and the child was extracted alive. From 4 A.M. till 7 A.M., the hour of her delivery, she had six fits, but they now entirely ceased. She gradually regained her senses. On the 17th she was quite rational, and we hoped she would have done well; but on the 18th, symptoms of peritonitis set in, and she died on the 21st.

Dr. Athill said, that in this case,—after bleeding, &c.,—one grain of morphia arrested the convulsions for five hours, and that, had it been possible to have delivered her before the expiration of that time, they probably would not have returned again.

Dr. O'Reilly, after some prefatory observations concerning the indiscriminate administration of chloroform in parturition, which he condemned, read a paper upon the local application of the drug, both in the liquid form and in a state of vapour, and illustrated his communication with cases.

The first case to which he drew attention was that of Mrs. D., aged 32, mother of two children. She usually resided in England, where she was last confined under the influence of chloroform. She remained in a state of indisposition for some weeks after, complaining of pain in the right shoulder, extending to the arm and side, of an acute character, which was considered to be rheumatic, and for this disease she was treated. She then came to this country, when Dr. O'Reilly saw her, in consultation with Sir Henry Marsh. It was found that she laboured under chronic pleuritis.

Notwithstanding a variety of treatment was adopted, still the pain in the side continued unabated. Sedative applications, blistering, the administration of narcotics, &c., afforded no relief: the pain yet remained a prominent symptom. Hectic fever and emaciation set in, together with an occasional cough, and mucous expectoration.

By removal to the country, and the use of cod-liver oil, she appeared to improve, but the pain still continued constant. It was now determined to try chloroform, a drachm of which was placed upon a pocket-handkerchief and applied to the side; from this she experienced the greatest ease, and it continued a source of comfort to her for a period of six months, although all treatment availed nothing in arresting the disease.

Dr. O'Reilly said he had employed chloroform in several neuralgic cases in the same manner as above detailed, with success generally, though he confessed in some he found that it failed.

Dr. Hardy's anæsthetic douche having appeared before the profession, Dr. O'Reilly—though sceptical as to the advantage of the vapour of chloroform thus employed, yet knowing that the fluid application of the anæsthetic would be inapplicable in some cases—determined to make use of this instrument on the first opportunity; and one soon presented itself in Mrs. L., aged 45, (twenty years married, and mother of eleven children, the last of whom was five years old,) who came under his care with a recto-vaginal fistula. The parts in the immediate neighbourhood of the opening, and the ulceration itself, were indurated, irregular, and of a cancerous nature. Various treatment was employed, yet nothing seemed to afford relief from pain. Dr. O'Reilly then used a liniment composed of camphorated oil, belladonna, and chloroform, which he directed to be rubbed over the sacrum and hypogastrium, and he also applied the liquid chloroform, as in the former case, yet without any perceptible relief. At length he employed the "anæsthetic douche," which almost instantaneously afforded the greatest comfort; the health and spirits of the patient greatly improved; her powers of locomotion became nearly re-established; and though the fungoid excrescences continued to increase in size, still there was perfect freedom from pain. This lady still perseveres in the use of the douche.

Dr. O'Reilly then alluded to a case of tic douloureux, occurring in a young lady, aged 19, where the use of the anæsthetic vapour douche was most satisfactory, in fact, after continuing its employment for some time, the disease was finally removed. He also drew the attention of the Society to the application of the vapour of chloroform by means of Robinson's breast-glass, with the Indian-rubber exhauster, in cases where fissures exist on or about the nipple, and gave an instance where this mode of proceeding was productive of great benefit.

He lastly related the history of a case of delirium tremens, where all treatment failed to procure sleep, till he made use of the anæsthetic douche, "by removing the nozzle and puffing the vapour in the patient's face," when he soon became tranquil from fierce delirium, and, in an hour after, sleep set in. The young man recovered.

Dr. O'Reilly stated his views relative to the exhibition of chloroform in every mode; he drew attention to the directions issued by the Academy of Paris for its administration, and concluded by saying, that he thought the profession indebted to Dr. Hardy for his apparatus, which possessed the great advantage of bringing mucous outlets and the surface of ulcers situated either in those passages, or upon the skin, under the action of the vapour of chloroform.

Fourth Meeting, Saturday, March 4th, 1854.

Dr. James Brady related the following case of scarlatina occurring a few days after delivery.

"A. B., aged 29, of nervous, hysterical habit, was delivered of her sixth child at six o'clock A. M. on the 23rd of November last; labour was short and natural, and the placenta was expelled, with the aid of slight pressure, about half an hour after the completion of the second stage. Everything went on well until the 25th, or sixty hours after delivery; when, as she imagined, owing to undue exposure to cold by neglect of the nurse, she was seized with a violent and prolonged rigor, together with severe pain in the back: there had been some secretion in the breasts during this day (25th). On the 26th it was found that she had passed a wretched night, not having slept at all; she complained of a severe headach, and a burning sensation in the eyeballs; but she suffered chiefly from excruciating pain in the back, which had been constant during the night, demanding the employment of constant pressure, such as is used during labour. This pain, she asserted, was more severe than any she had felt in her confinements; there was also occasional pain in the uterine region, and considerable tenderness over the entire abdomen, increased by pressure; the face was flushed; she could not bear the least light or noise; the skin was dry and burning hot; there was incessant thirst, and a pulse of 120; no sickness of the stomach was complained of; neither was there any soreness of the throat; the lochiæ were suppressed; there was no longer any milk in the breasts; and the bowels were confined. On the 27th the head symptoms were somewhat relieved by a copious epistaxis; the pain in the uterus and the tenderness of the abdomen had diminished after leeching; but in no other respect was her condition materially changed. It was found on the 28th, that so far from any improvement having taken place, her state appeared truly alarming:—she had now scarcely slept for three days and nights; she complained much of weakness and weariness from this want of rest; she expressed great doubts and anxiety as to her recovery; there were present great prostration; occasional delirium; constant thirst; abdominal tenderness and tympanitis; with a pulse of 130, weak and wiry.

29th. Six days after delivery, and third of her illness, a bright scarlet eruption appeared over the entire body, followed by an immediate improvement in all the symptoms, and she obtained several hours' refreshing sleep; her tongue was red and dry, with prominent papillæ; for the first time she admitted to slight soreness of the throat; no ulceration existed, but the tonsils and neighbouring mucous membranes were of a bright red colour.

She was, in every respect, improved on December the 1st. The eruption had entirely disappeared; but the pains in the back and in the uterine region had returned; and at the same time there was

considerable tenderness of the abdomen, which was also full and tympanitic; pulse 120; skin moist; bowels purged.

It was noted on December the 2nd, that the abdominal symptoms had been much relieved by a blister; but for the next four or five days the pain and purging caused annoyance, the former being very severe; at the end of this time, however, these symptoms gradually disappeared, and she slowly but perfectly recovered.

The treatment consisted, at first, in moderate leechings, terebinthinate stupes, and mild doses of mercury and opium; subsequently a blister was applied to the abdomen, and acetate of lead in combination with opium administered.

Perhaps the only point of interest in this case is concerning the diagnosis, and I am anxious to direct attention to this consideration, inasmuch as the particular instance I have detailed illustrates, I think, very forcibly the difficulties often met with on this head in private practice; where, on the first symptoms of serious illness, the practitioner is expected to name at once the disease which gives rise to those symptoms. Now, for the first two or three days there was such a close resemblance to inflammatory puerperal fever, that, I think, fw ecould have positively pronounced her state as any other than such; the violent and prolonged rigor, following exposure to cold, on the third day after delivery, together with considerable pain and tenderness in the abdomen; the high inflammatory fever; the suppression of the lochia and milk,—formed, I think, a group of symptoms that would have strongly justified an arrival at that opinion; there was wanting, however, the peculiar expression of countenance so characteristic of that disease; and the well-marked nervous hysterical habit of the patient of course influenced the diagnosis and treatment.

In a case of recovery from scarlatina, complicated with the puerperal state, recorded by Dr. Henry Kennedy, the disease commenced with the usual symptoms, sore throat and vomiting, and in a few hours the eruption; but in the above case, the most frequent symptoms of scarlatina were absent; there was not the least irritability of the stomach or bowels; and not the slightest soreness of throat until the appearance of the eruption, which did not show itself for three days after the rigor; the severe spinal pains, the violent cerebral excitement, and the state of the tongue, were the only symptoms which could cause that disease to be at all suspected.

It is necessary to mention, that on the morning following the rigor, I visited her after I had seen a case of mild scarlatina for the first time; this person lived in a part of the city remote from my puerperal patient, and I took the usual precautions against carrying the disease; the possibility, though, that I might have communicated infection at once occurred to me, and formed, I need scarcely say, a very unpleasant subject for reflection, which has had the effect of determining me never to visit a case of midwifery on the same day that I have attended one of scarlatina.

In conclusion I may mention, that the only child left in the house took scarlatina, and went regularly through the disease.

Dr. M'Swiney brought forward the following case:—

Mrs. F., residing in the suburbs of Dublin, called to his house on the 3rd of last January, complaining that she had been since the morning of the 1st much troubled with frequent desire to pass water, and great distress in attempting to do so; she at the same time remarked that she was three months pregnant; she was in good health, had eaten and drank as usual, but for upwards of two days she had not passed more than about half a pint of urine, and that with great difficulty and on frequent occasions: she declared that she felt no sensation of distention from retention of urine, and merely desired a prescription to relieve her of the pain she experienced on passing it, as well as the frequency of the calls. Dr. M'Swiney, however, passed a catheter and drew off about seven pints of high-coloured urine, to the great surprise of the patient. Attention was at the time confined only to the investigation of the state of the bladder and the unloading it of its contents, no particular note having been taken as to the condition of the uterus; still Dr. M'Swiney was of opinion that "retroversion" did not exist, neither was his attention drawn to the uterus, in consequence of the ease with which the meatus was discovered, and the facility of the introduction of the catheter, which did not require to be passed to any abnormal length,—circumstances which he considered would hardly have been met with had this displacement existed; moreover, the bladder resumed its healthy state at once, catheterism not being again required; an occurrence not likely to have taken place had there been an unreduced retroversion.

As this patient had slight pains on the morning of her visit, accompanied by a trivial "show," with a certain sense of general pelvic uneasiness, she was warned that she might abort, and certain routine directions were enjoined. As predicted, on the morning of the 5th she did miscarry, without the occurrence of anything worthy of detail. Dr. M'Swiney was not with her at the time of her miscarriage, but he saw her some hours after; he was then "shown the fœtus without the placenta," and on making inquiry upon the subject, he was assured by the patient herself "that all was right;" that the after-birth had certainly "come away," and that if it was not to be seen, it must have been thrown out.

Dr. M'Swiney regretted to say that he was content with this assurance, made by one who had been confined four times previously to her present miscarriage, and he left her without having satisfied himself as to the correctness of her statement. For the four following days she went on well enough, but on the fifth (January the 9th), he was hastily summoned, early in the morning, to her bedside, when he found her, as he believed, moribund: he learned that she had been "flooding" for some hours, and had lost an enormous amount of blood. He got her to swallow a draught containing a

drachm of laudanum, and administered appropriate stimulants. As soon as possible a vaginal examination was made, when "the placenta" was found to be partly through the os, by which it was tightly grasped; two fingers only could be introduced, and it was removed piecemeal. During this manipulation Dr. M'Swiney had frequently to stop for the purpose of giving his patient some stimulant, as she more than once appeared to be dying. Dr. M'Swiney regretted he had not with him the tenaculum recently exhibited to the Society by Dr. Churchill, as he considered it would have been admirably suited for this particular case. This patient rallied after an anxious period of uncertainty, and she is now comparatively well, suffering merely from the remains of anemia.

Dr. M'Swiney considered this to have been a case in which there occurred, in the first instance, a spasm of the urethra, induced (according to the history given), by the influence of severe cold upon a person of a highly nervous temperament; and subsequent paralysis of the bladder from over-distention; that this largely distended bladder made pressure on the uterus, which, though insufficient to produce retroversion, was yet great enough to cause such an amount of disturbance in that organ as "to stimulate it to throw out its contents." He had already given his reasons for supposing that retroversion did not exist; yet as some might consider this an open question, he not having especially examined for that displacement, he deemed it necessary to state that at no period whatever was there any sign of pressure on the rectum; a dose of castor-oil taken the morning of the day he first saw her, acted without difficulty, and she never complained of any want of power in evacuating the contents of the bowels.

Dr. Atthill wished to lay before the Society the statistics of those cases in which chloroform had been administered in the Rotunda Hospital, from October, 1851, up to the present date; but before doing so, he was anxious to explain briefly the class of cases in which it had been administered, as thereby the results would be better estimated.

Dr. Atthill said, "the Master of the Hospital did not consider it necessary or expedient to give chloroform in the ordinary run of natural labours. Its use in the institution was confined—1st. To all cases in which it became necessary to use instruments. 2nd. To all cases where version was contemplated. 3rd. To a few cases of preternatural presentations of the breech or foot. 4th. Occasionally in a few instances of protracted labour, where the patient was exhausted from long-continued suffering. 5th. In some cases where the woman seemed to suffer more than ordinary, and was nervous, irritable, or noisy. And it had also been tried in a few cases of convulsions, with the particulars of which the Society has been already made acquainted.

In the first or instrumental group, the value of chloroform can be scarcely overrated: the patient exhausted, perhaps, by a tedious

labour, is restless and impatient, and the idea of an instrumental delivery may have added terror to her already unhappy condition; the forceps, consequent on the above state of necessity, or because of restlessness, may not be applied with facility. Now the anæsthetic influence of chloroform obviates all this. The patient can be easily placed in any convenient position, and the comfort experienced by the operator is only equalled by the fact of the patient's own freedom from pain, and the consolation, on her recovery from the effects of the drug, at finding all cause of anxiety and distress at an end. Chloroform is never omitted in these cases.

In the next class of cases, the beneficial effects of the anæsthetic is equally great; the patient is rendered passive, and version is more easily accomplished from the uterine action being suspended (which is the case as a general rule) for the first few minutes after the full effect of chloroform has become apparent.

In the third set, viz., those instances of breech or footling presentations, in which difficulty may be expected in the extraction of the head, from the impossibility of keeping the patient quiet; especially when such presentations occur in primipara, it has been found useful to administer chloroform when the breech begins to distend the perineum; this practice has been attended with the happiest results.

With regard to the fourth class, it has been found, on several occasions, that when the patient was getting worn out from continued suffering in a labour rather tedious, the most marked benefit followed the exhibition of chloroform; for after having been kept under its influence for a time, perhaps for an hour or two, the woman has awakened much refreshed, uterine action has set in with vigour, and the case has soon terminated happily and naturally.

An example illustrating this remark occurred but a few days since in a primipara, in whose case the membranes having ruptured at the very onset of the first stage, tediousness was the result, and when the os was fully dilated, the pains, though incessant and harassing, were so inefficient that they had not power enough to force the head into the brim; the woman, who had, up to this time, been twenty-six hours in labour, and was much exhausted, was now placed under the influence of chloroform, and its effects kept up for an hour at least. After having slept some time, she awoke refreshed; the pains set in powerfully, the head soon rested on the perineum, and the labour was then cut short by the forceps. I do not think that the head, in this instance, would have entered the pelvis at all, had not the woman been refreshed by the interval of ease which she enjoyed while in a state of anæsthesia.

With respect to the peculiar effects produced by chloroform, when used to complete anæsthesia upon the labour patient, the experience of the Hospital confirms the observations made by Dr. Denham in his paper on this subject, published in a former number of the Dublin Quarterly Journal, viz., "that uterine action is at first suspended, but that it usually sets in again after an interval

of about a quarter of an hour; that the pains return regularly and forcibly, and that the actual expelling power of the uterus is not much, if at all, diminished." I consider, however, there is, without doubt, a greater tendency to postpartal hemorrhage in such cases than in those where chloroform has not been inhaled; also, that the uterus does not contract so rapidly or so firmly as usual; and that there is a decided tendency to relaxation in the organ. This, I think, admits of an easy explanation, from the fact that, although the "active contractions" of the uterus are not interfered with, the "tonic action" is more or less destroyed, and hence the tendency to flooding; but this tendency has never resulted in anything serious in the hospital practice, due precautions being always taken. Pressure has constantly to be kept up for a considerable time; sometimes it has been necessary to apply cold perseveringly, and as a general rule the binder is not applied till the woman has completely recovered from the effects of the drug.

None of those unpleasant symptoms, which have been ascribed to the use of chloroform, have come under the notice of those connected with the Lying-in Hospital. The pulse has never once faltered in any of the cases I am about to lay before you. In one solitary instance the patient showed symptoms of hysterics after having inhaled a little, and the inhalation was at once discontinued. And, in another case, when just recovering from its influence, the woman had two hysterical fits, but so short and trivial as to be hardly deserving of notice; with, then, these two exceptions (if they can be called exceptions), all these cases, in which chloroform was administered, were without any drawback, so far as the chloroform itself was concerned."

The following are the statistics which Dr. Atthill presented to the Society.

Cases in which chloroform has been administered in the Rotundo Hospital from October, 1851, up to the present date.

No. 1.—Forceps Cases.

Total.	CHILDREN.			MOTHERS.			CAUSES OF DEATH TO MOTHERS.				RATE OF MORTALITY.
	Alive.	Dead.	Dead and Putrid.	Recovered.	Died.	Maniacal.	Peritonitis.	Rupture of Uterus.	Convulsions.	Phlebitis.	
82	69	15	2	78	4	1[a]	1	1	1	1	1 in 20½

[a] Subsequently recovered.

No. 2.—Crotchet Cases.

Total, including one Evisceration.	Mothers.			Causes of Death.				Rate of Mortality
	Recovered.	Died.	Maniacal.	Peritonitis.	Convulsions.	Rupture of Uterus.	Sloughing.	
38	30	8	1[a]	2	1	3	2[b]	1 in $4\frac{6}{8}$

No. 3.—Version Cases.

Total.	Children.			Mothers.		Causes of Death.		
	Alive.	Dead.	Dead and Putrid.	Recovered.	Died.	Peritonitis.	Rupture of Uterus.	Convulsions.
13	9	4	0	12	1	0	1	0

No. 4.—Footling and Breech Cases.

Total.	Children.		Mothers.	
	Alive.	Dead.	Recovered.	Died.
3	3	0	3	0

No. 5.—Natural Cases.

Total.	Mothers.		Children.	
	Recovered.	Died of Peritonitis.	Alive.	Dead.
4	3	1[c]	3	1

No. 6.—Convulsion Cases delivered naturally.

Total.	Children.			Mothers.		Causes of Death.
	Alive.	Dead.	Dead and Putrid.	Recovered.	Died.	Convulsions.
2	1	0	1	0	2	2

No. 7.—Prolapse of Funis delivered naturally.

Total.	Mothers.		Children.	
	Recovered.	Died.	Alive.	Dead.
1	1	0	0	1

No. 8.—All Cases in which Chloroform was given.

Mothers.			Children.			
Total.	Recovered.	Died	Total, deducting Perforation Cases.	Alive.	Dead.	Dead and Putrid.
143	127[d]	16	110	85	21	3

[a] Subsequently recovered. [b] One an old vesico-vaginal fistula.
[c] Very protracted in first stage, and slow in second. Child dead-born.
[d] Including the two maniacal cases, which subsequently recovered.

"Out of this list of 143 cases in which chloroform was administered, there were but 16 deaths; a small proportion, when it is remembered that, with the exception of 7, all were cases of either difficult or complex labour; deducting these from the 16 fatal cases here recorded, 4 of convulsions, in which chloroform was given as a last resource, and which would have undoubtedly died under any circumstances, we have 12 to dispose of: 4 of these died of peritonitis, of which four, 2 were so deformed as to have given extreme difficulty in delivery; 5 were cases of ruptured uterus; 2 were destroyed by sloughing of the soft parts, and one of these was the subject of an old vesico-vaginal fistula, in whom the constant dribbling of the urine after delivery excited inflammation, which, taking on an erysipeloid form, terminated in the destruction of all the soft parts in the neighbourhood of the outlet as well as those of the passages; lastly, in 1, life was terminated by phlebitis.

"I therefore conclude that, on reviewing the causes of death in such of these anæsthetic cases as terminated fatally, no blame whatsoever can be attached to the chloroform. In the paper by Dr. Denham, before alluded to, he gives two instances where anæsthesia could not be induced; with us chloroform never failed to induce this state, save in the one instance, when its use was discontinued; but all the conclusions to which he has there arrived have been fully borne out by this additional experience; in one point only do I differ from him, and that I have already mentioned, viz.: I feel forced to consider that in labour cases, when chloroform is used, there is always a great tendency to post-portal hemorrhage."

Case of Tumour of the Right Labium Pudendi. By Francis Crumpe, M.D., Surgeon to the Co. Kerry Infirmary.

The following case, taken from my note-book, may be worth publishing just now, when so much mention is made about fibrous tumours growing from the labia pudendi.

Joan Brien, aged 32, a robust, healthy woman, the wife of a respectable farmer, and in the sixth month of her pregnancy, called on me to remove a tumour growing from the inside of the right labium pudendi: it was remarkably firm and heavy, smooth and glossy on its surface, and in the erect position extended to the middle of her thighs. It was covered by the thin mucous membrane of the labia, which, from constant exposure to the air, had lost its natural moist villous appearance. The fold of skin forming the external side of the labium formed no part of its coverings. The circumference of the tumour transversely was eighteen inches, and the circumference in the longitudinal direction was twenty-two inches. From resting at its base on any surface on which she sat, which, for convenience to herself, was often the ground, it was there excoriated. This woman stated that she was fourteen years married, and had

seven children; that at the delivery of her first child, this labium sustained some violence and laceration; that shortly after a thickening became observable to her in that part, and gradually increased to the size of an orange; that it remained stationary at this size for some years, and did not in any way interfere with her succeeding accouchements; that in the early period of her present pregnancy it began and continued to increase to its present enormous magnitude. On drawing the tumour downwards, and grasping between the fore-finger and thumb its attachment at its root to the inner surface of the labium, it presented the feel which is communicated in the examination of varicocele of the spermatic cord, and the vessels here were as large. The woman was laid on the table as in lithotomy; an assistant standing on her right side was directed to introduce the fore-finger of the left hand as high under the arch of the pubis as he could in the superior commissure of the vagina, and then strongly to compress the vessels, which if he did not succeed in effecting, he was to press the fore-finger of the right hand at the same time upwards in the external fold of the labia, so as to bring the fingers into as near contact as he could: making by two sweeps of the scalpel a semi-elliptical incision on both sides of the mucous fold, commencing at the upper margin of the tumour, it was at once detached. Two arteries, fully as large as the radial, were secured; one suture in the centre of the wound, compresses, and a T-bandage, were applied. The wound united partly by adhesion, and partly by suppuration, and was perfectly healed in fourteen days. On examining the tumour after its removal, one artery, as large as the radial, traversed it in a continuous trunk from the summit to the base. The covering admitted of no mobility, and from its thinness and strong adhesion could not be removed by the scalpel from the tumour, which was void of cellular tissue and fat. In making a section of it, both in the transverse and longitudinal diameter, it presented all the appearance which is seen in the udder of the cow, and not unlike the structure observable in the female breast; it might be described as a variety of the mammary sarcoma.

Case of Chronic Peritonitis, with an enormous amount of Fat in the Effusion; Fatty Degeneration of the Liver; Free Fat in the Blood; Fatty contents of both Ovaries combined with Hair and Bony Matter. By John Popham, A. B., M. D., Physician to the Cork North Infirmary, &c.[a]

The pathology of fatty diseases has been as yet so little elucidated, that it is desirable to place on record any remarkable examples in which these deviations from the healthy state of the system occur. I do not recollect any published case where an amount of fat, as in the present instance, was found in a dropsical effusion.

Johanna Murphy, aged 28, unmarried, a servant by occupa-

[a] Read before the Cork Medical Society.

tion, residing at Blarney, was admitted to the North Infirmary, under my care, on February 4, 1853, with abdominal dropsy. She exhibited the appearance of well-marked cachexia, being greatly emaciated, the enormous distention of the abdomen strongly contrasting with the approximated ribs and contracted dimensions of the thorax. The history which she gave of herself was, that she had enjoyed good health up to last harvest, when she was attacked with influenza, and afterwards with fever, for which she was admitted into the Fever Hospital. After leaving the hospital, she got dysentery, her health began to decline, and a visible swelling of the abdomen commenced, attended with considerable pain in the hypogastric region. This gradually increased, and the legs subsequently became œdematous; when admitted, the abdominal walls were so greatly distended, that it was impossible to distinguish the precise nature of the contents. She had no sign of jaundice, or pain in the hypochondrium; no tenderness on pressure; the bowels were confined; no nausea or vomiting existed; pulse 96, weak; great oppression of the respiration; urine scanty. The catamenia had appeared at the age of 15, but were subsequently irregular; they ceased at the period of the fever, and did not return. There was little hope of any benefit from medical treatment; and the dyspnœa increased so much, that at her urgent request paracentesis was performed on the 23rd of the month, and twenty-five pints of a thick, oily fluid, of the colour of porter, were drawn off, after some curdy matter had first passed. She received little relief from the operation, and died three days after of exhaustion.

The body was examined by the house surgeon, Dr. Donegan, twenty-four hours after death. Great emaciation existed of the upper, and œdema of the lower extremities. On making a section of the abdominal parietes, the first thing that struck us, after the escape of a quantity of thick, turbid liquid, was a *cake of solid fat*, like tallow, floating on the surface. It was flat and smooth, about the size and form of a small plate, and nearly half an inch in thickness. In consistence it was rather soft, like butter, and not unlike it in colour. It closely resembled the fatty cake which collects on the surface of broth on being cooled. Besides this concrete mass, there were numerous flakes of soft fat, from the size of a grain of shot to a pea, mixed up with the fluid, which was of a dark colour and oily appearance. The amount of fluid had pushed up the diaphragm so considerably, that, looking from below, there appeared almost a total absence of the thoracic cavity. Upon removing the fluid and washing out the peritoneal cavity with care, none of the abdominal viscera were in sight, being concealed from view by a dense layer, seemingly of lymph (for it presented none of the characters of omentum), of a quarter of an inch in thickness; this following the course of the peritoneum, on the back of the abdominal wall, passed along under the surface of the diaphragm, and then continued down, over the liver, stomach, and intestines, into the pelvic cavity, so as to incarcerate the abdominal and pelvic viscera, and to insulate the drop-

sical effusion, thereby rendering it of an encysted character. The free surface of this layer was dark like soot, being so thickly spotted with a melanotic deposit as to present a continuous black appearance. Projecting from the general outline was an ovoid tumour, rising from the pelvic region, and swelling out into the hypogastrium, which proved to be the right ovary. On removing the investing layer, the intestines were found compressed and agglutinated together by short bands of lymph mingled with the same yellow flakes of fat. The liver was a little over the natural size, soft, of a yellowish-brown colour, and in an advanced degree of fatty degeneration; the hepatic cells were distended by oil globules; the gall-bladder contained a small quantity of tarry bile; the ductus communis choledochus was not obstructed. No disease was found in either pancreas or spleen. The kidneys were healthy, but the ureters were dilated at their renal terminations, especially the right; the bladder was closely constricted. In the substance of the mesentery several small fatty tumours were found, containing a substance like adipocere, the largest about the size of an almond; they consisted of an unilocular sac, with very thin walls. The blood in the inferior vena cava was loaded with oil globules. The mucous membrane of the stomach was of a dusky colour, and a similar leaden hue was seen along the intestinal canal.

The lungs were so much compressed as to seem almost atrophied; the heart was normal; the lining membrane of the aorta was of a bright vermillion colour; no tubercles existed in the lungs.

The head was not examined.

The uterus was rather less than the natural size, the os tincæ very small and round, giving to the finger the sensation which French writers compare to that felt by touching *le bout du nez;* the vagina was very narrow, scarcely admitting the finger; the hymen was unbroken, so that all these evidences rendered it a matter of certainty that the products found in the ovaries were not caused by the stimulus of a Graafian vesicle from intercourse.

On making an incision into the pelvic tumour, and which was the right ovary enlarged nearly to the size of an infant's head, a quantity of hair was disclosed in an unilocular cyst, closely matted together and forming a ball about the size of a goose egg. This hair was intermixed with a melicerous deposit, inodorous; it was not attached to the walls of the cyst, but lay perfectly loose. Its colour was a deep brown, most of it but a few inches in length, but some more than a foot; it was fine and silky. In some, the hair bulbs existed as in normal hair; while in others no appearance of them was seen. It was most probably, as Vogel observes, originally developed from hair sacs implanted in the cyst, but afterwards detached by some unexplained cause and detained in the ovary from the property of this substance to resist absorption. The fatty matter was mixed up with it in great abundance, and resembled honey partially candied; it was most likely, as Cruveilhier supposes, the product of the secretion of the sebaceous glands which accompany

the hairs. The left ovary was about the size of an orange, and had similar contents, less hair, but more of the melicerous deposit. It formed an exception to the general rule laid down by Rokitanski, who states that it is rare for *both* ovaries to be affected with those adipose cysts. In the walls of each ovary, bony masses existed, like knots projecting from their surface; and on cutting down on them, portions of true bone were found, in some, of an amorphous character, but having a periosteum, while others were teeth-sacs containing teeth, chiefly incisors; some of the latter were single, in one case, two were blended together. Some of them had fangs infixed in bony alveoli.

In the preceding case several remarkable peculiarities existed, so that it becomes difficult to theorize with certainty upon the rationale of the disease. Thus we have fatty degeneration of the liver, fat in the blood, peritonitis with an effusion of a remarkably fatty character, and, lastly, ovarian disorganization, in which fat forms a prominent element. If we look to the history of the case for a clue to guide us, there seems no ground to believe that the morbid changes discovered after death were in existence antecedent to the fever, so that the whole circle of pathological results would seem confined to a period of six months or less. The typhus fever occurring during the preceding autumn was regarded by her as the first breach of health; but it is difficult to ascertain in what part the structural changes commenced. We might conjecture, indeed, that in the altered nutrition of the body which takes place in fever, the fat was taken up by the veins from its ordinary locality, and was deposited from the blood in the hepatic cells, which possess a peculiar attraction for this substance; or, that the changes in the intestinal tract produced by typhus may have prevented the saponification of fatty matter, and thus allowed its retention in the blood. Perhaps the morbid state of the intestines in phthisis may have some influence in determining the fatty degeneration of the liver, so often found in that disease: the same state of liver has been found by Dr. Bright to coexist with chronic dysentery. The typhus infiltration itself has been proved to be of a lardaceous nature, and a similar deposit is found in the mesentery. We have not certainly on record cases of fatty degeneration of the liver as the result of continued fever, though Rokitanski has noticed this state in connexion with ague. If we look to the causes of fatty degeneration of the liver, assigned by the same author, none of them apply to the present case: these are tubercles, excess of rich, oily food, and abuse of alcoholic liquors; but these causes act differently; tubercles, by lessening the capacity of the lungs for the oxidation of carbonaceous matters in the blood; the latter causes, by introducing these matters in undue amount into the circulation. Certainly both severe pulmonary and intestinal diseases are associated with an augmented state of fat in the blood. Simon found an excess of free fat in the blood in pneumonia.

From the above case it would appear that an unhealthy state of

the pancreatic fluid is not necessarily connected with an over-amount of undissolved fat remaining in the system, as this organ was free from lesion. The excess of this element was probably due in part, at least, to a defect in the assimilating powers of the liver, a sufficient quantity of bile not being separated to dissolve the fat, so that an undue amount of the adipose element remained in the blood. It is difficult to explain the deviation of its direction from normal to abnormal parts,—why, for instance, it should be studiously averted from parts where it is a natural element to places where it becomes a foreign and mischievous body. It is thus we find it in the ovarian cells, perhaps, from their misplaced activity upon excitation by the stimulus of fat in the blood, especially consequent on the arrest of the catamenia, one of the sources by which excess of carbon is removed from the female system. Finally, are we to regard the peritonitis as the last link of the chain of disorder, and a closing effort of nature to free that fluid by exudation of its abnormal product; or as a secondary disease spreading from the disorganized ovaries by contiguity of peritoneal tissue, something in the way that puerperal peritonitis is associated with inflammation of the uterus after parturition?

In the present state of our knowledge, these matters are difficult of explanation; and it is only by experiment and careful induction they can be answered. As yet, we have no data sufficiently conclusive.

A Case of Labour rendered difficult and protracted by adhesion of the Placenta, and by the Funis having been coiled three times round the Child's Neck. By John Kearns, M.R.C.S. England, Surgeon to the Kilkenny Dispensary.

On the night of Thursday, the 20th of October, 1853, I was sent for to see Ellen Talbot, forty-two years of age, the wife of a small farmer, in labour of her first child. She stated to me that, according to her own calculation, she wanted about a fortnight of her full time, and the midwife informed me that she was forty-eight hours in labour, the waters having escaped twenty-fours before my visit. On examination I found the os uteri dilated to the size of a crown-piece; the membranes not completely broken, so that when the pains, which were good, occurred, some liquor amnii presented before the child's head. Her pains being strong, with a pulse of 90, I left her to the natural efforts till the following day. On Friday, the 21st, I found the liquor amnii entirely evacuated, the os uteri more than two inches in diameter, the pains good, her pulse 90, and firm; but I found that the pressure of the head against the os was not at all equal to the uterine action during a pain, and that it was rather strongly retracted in the interval. However, considering interference uncalled for, I saw her again in the evening, when I found the os uteri still more dilated, with the head pressing more strongly against it. To contribute to the further dilatation of the os uteri,

and to procure for my patient an interval of repose in so long and unremitting a labour, I gave her an opiate and left her in the nurse's charge for the night. I saw her again early on Saturday morning, and found her pains strong and frequent, the head of the child having cleared the os uteri, or rather the latter having passed behind the former, as the head had made little or no progress. After a couple of hours I found that, although there was no pelvic obstruction, there was no advance of the child's head; that it did not press against the surrounding parts as strongly as the uterine action was vigorous, and that it receded quickly as the pains subsided.

Having failed in procuring additional medical aid, I determined on using the forceps for the purpose of bringing the head slowly down on the perineum, and having applied the instrument with care, by gentle traction during the pains the head was at length placed on the perineum.

I now left the remainder to be accomplished by the natural efforts, and although the pains were still as vigorous as ever, with a perineum not sufficiently rigid to account for it, the head of the child was not delivered for twelve hours after the use of the forceps.

On the birth of the head, I found the funis coiled three times round the neck of the child, the integuments of the head and face being quite livid. I tied and divided the cord, when the remainder of the birth was quickly completed by the natural efforts.

Having now waited an hour for the delivery of the placenta, and there being no sign of its expulsion, the uterus being, at the same time firm, and no hemorrhage taking place, I thought it better to let my patient rest than to interfere for the present. I, therefore, left her bandaged with a napkin applied in the usual way, and with strict directions to the nurse not to remove her hand from over the uterus till my return. In five hours after she was just as I left her, and having introduced my hand for the purpose of removing the placenta, I found the greater part of it in the vagina much lacerated; the remainder firmly grasped within the uterus. By a patient dilatation of the os uteri, and by a careful peeling off, I succeeded in removing the very strongly adherent portion.

Although the age at which this woman became primiparous would dispose one to consider that rigidity had much to do in the case, yet I am satisfied that the difficulty and delay were entirely due to the strongly adherent and rigid placenta, and to the funis being thrice coiled round the child's neck, thereby shortening the cord considerably, and tightly attaching the infant to the fundus uteri or to its immediate neighbourhood.

The occurrence of so many coils round the neck may be accounted for by the occupation of the mother, who was daily in the habit of raising a heavy milk-pail to her head from her knee, aided by a sudden jerk of the latter, thereby tilting up the child's head on these occasions. The occurrence of the third coil was probably the cause of labour setting in before the term of gestation had been fully completed; and it is likely that it was by the same accident

and at the same time that the infant was strangulated, from the livid and partly decomposed appearance which it presented, together with the offensive odour with which the birth of both fetus and secundines was accompanied.

The strongly adherent condition of the placenta may be owing to inflammation and deposition of lymph, caused by the irritation and dragging to which it must have been repeatedly exposed.

For the first three days after delivery, my patient was doing tolerably well. On the fourth day fever of a low kind set in, and on the sixth day an attack of serous diarrhœa, the most sudden and profuse that I have ever witnessed, came on, and she died on the seventh day.

Observations on Urine and Urinary Calculi. By William D. Moore, A.B., M.B.

1. *Urinary Calculi, consisting of Heller's Urostealith.*—On the 27th July, 1853, I received by post, from Dr. Little, of Sligo, two very small, dark-brown calculi, with a request that I would subject them to chemical examination. Of these concretions I sent Dr. Little the following account:—

The calculi, when bruised in a mortar, are found to be soft and of a peculiar waxy consistence; triturated with water, they, with difficulty, divide into small portions, having a decidedly waxy appearance. In water of caustic potash they are immediately broken up, and become white and soapy-looking; but by far the greater portion remains undissolved. Dilute nitric acid seems to have very little action on them. Heated in the flame of a spirit-lamp they fuse, and afterwards burn with a bright flame, leaving a blackish ash, this before the blow-pipe becomes brilliantly incandescent and leaves a beautifully white, highly alkaline residuum, evidently caustic lime. A considerable portion of the calculus is dissolved by boiling alcohol, and separates on partial evaporation and cooling, as a whitish deposit. In this deposit microscopic examination exhibits numerous fat corpuscles, but no crystalline plates. The calculus would, therefore, appear to consist of oxalate of lime closely united to a peculiar fatty matter, which is not cholesterine.

Such was the impression an examination of these calculi made on me before I was aware that the substance of which they were composed had been previously described. The frequent occurrence of oxalate of lime in urinary calculi and the similarity of its behaviour before the blow-pipe to what I have described, led me to conclude that the lime I obtained from these concretions by the action of heat had existed in them in the form of oxalate. In this, as will hereafter appear, I was mistaken.

On the 13th of March, 1854, I received from Dr. Robert Adams two calculi taken from the body of the patient by whom both of the above-mentioned specimens had been passed in the urine. One was large, being the size and nearly the shape of a small hen-egg; in the

centre was a cavity containing, but not filled by, a quantity of the dark-brown substance already described. The layers of the calculus next adjoining this substance were white and friable, and before the blow-pipe instantly melted into a white pearly globule. In water of caustic potash they were insoluble, and gave off ammonia; they readily dissolved in dilute nitric acid. This portion evidently consisted of the so-called fusible calculus, a mixture of the ammoniaco-magnesian phosphate with phosphate of lime. The most external coat, which was very thin, was much harder and was of a light-brown colour; it appeared to be composed almost entirely of phosphate of lime, dissolving readily in dilute nitric acid, but not in cold acetic acid, and remaining unfused when exposed even to a considerable heat before the blow-pipe. The residuum left after the action of the blow-pipe was very faintly alkaline.

The second calculus given me by Dr. Adams was very small, and appeared to be formed of phosphate of lime.

Never having before met with a fatty matter existing in so large quantity as a constituent of urinary calculi, I now proceeded to ascertain whether a description of any such case was on record, and soon lighted on the account of Heller's Urostealith, given in Simon's Animal Chemistry[a]. With this substance I am convinced the nucleus of the larger calculus is identical. To the description of the properties of this body there given I would only add the appearance of oil globules presented under the microscope in the alcoholic solution when cooled or partly evaporated, which is important as diagnostic between the urostealith and cholesterine. I would also observe that the fragrant odour mentioned by Heller as being given off by the urostealith when heated, and compared by him to that of shell-lac and benzoin, seems to me to resemble closely the smell of musk, or, more exactly, the odour emitted by burning cascarilla bark. Lastly, it is more likely that the lime which remained after the action of the blowpipe had existed in combination with the peculiar fatty matter, than that it was present in the nucleus as oxalate of lime. Heller's observation, as quoted by Dr. Day, in the edition of Simon's Chemistry I have referred to is, that after the combustion of the urostealith, "a voluminous coal is left, which, when thoroughly burned, leaves a very minute alkaline ash, consisting principally of lime."

Being anxious to decide this point, I procured a fresh portion of the nucleus, which Dr. E. W. Davy was good enough to examine for me. Dr. Davy's experiments confirmed the view I had taken of the close agreement of the characters of this substance with those of Heller's urostealith. As to the state in which the lime exists, he found part to occur as the phosphate, and the rest "to be in combination with the fat or waxy substance, forming some organic combinations with the fatty acids." In all his experiments he failed to get any unequivocal evidence of the existence of oxalic acid. It is,

[a] Sydenham Society's Edition, vol. ii. pp. 326 and 452.

therefore, more than probable that none of the lime was present in the form of oxalate[a].

The nucleus then of the large calculus, furnished to me by Dr. Adams, consisted of urostealith, the middle layers were composed of the combination of phosphates which has received the denomination of "fusible calculus," while the outermost coat was formed of phosphate of lime. The identity of the nature of the nucleus with that of the calculi sent to me last summer by Dr. Little is worthy of note, while the demonstration of the urostealith is, from its extreme rarity, which is proved by its not once occurring in the long list of calculi given in Simon's Chemistry[b], nor in the enumeration by Dr. Golding Bird of the calculi in Guy's Hospital Museum, and in the Transylvania University Museum, of which sections have been made[c], highly interesting. I may add that the present case exhibits this substance under the two forms in which it occurred to Heller, viz., "either pure, or having an outer coating of ammoniaco-magnesian phosphate." In the instance which came under his observation it was presumed, in consequence of the locality of the pain, that the calculi were renal.

2. *On an unusual Combination of Properties in a Specimen of Urine.*—It is well known that a copious deposition of earthy phosphate is frequently produced in urine by the application of heat, and it is also known that occasionally, but much more rarely, the addition of dilute nitric acid to urine will cause a precipitation of uric acid so abundant and rapid as to simulate that produced by the same reagent in albuminous urine; but, except in the instance I am about to relate, I never met with a specimen in which these properties coexisted, nor am I aware that any such is on record.

On the 15th April, 1854, I received from Dr. Johnson a specimen of urine for examination, with the query, "Is it albuminous?" I found it to be slightly acid, its specific gravity was 1·023, and it contained a moderate proportion of urea. On standing for some time it deposited a large amount of urate of ammonia tinged with purpurine. Having filtered the urine, I boiled a portion of it in a glass tube, when a copious deposit took place, appearing amorphous under the microscope, and dissolving instantly on the addition of a drop or two of dilute nitric acid. The solution thus produced was not, however, quite limpid, and a considerable precipitation of uric acid soon occurred. The addition of dilute nitric acid to another portion of the filtered, but unboiled urine, produced an instantaneous and copious precipitate, which redissolved on the application of heat.

[b] The existence in the fæces of soaps of lime and magnesia, formed by the decomposition of a portion of the fat met with in the intestinal tube, may assist in explaining the occurrence, under certain circumstances, of similar compounds in the urinary organs. See a review, by the writer, of the second part of Bidder and Schmidt's work, "Die Verdauungsäfte und der Stoffwechsel," in the British and Foreign Medico-Chirurgical Review for April, 1854, vol. xiii. p. 395.

[c] Vol. ii. p. 454.

[d] Urinary Deposits. 4th edition. London, 1853. Appendix, p. 446.

This precipitate, when subjected to microscopic examination, was seen to consist of a great quantity of minute crystals, mixed with a less number of much larger ones; of the latter many were lozenge-shaped, and presented a pale violet or puce colour. This coloration was evidently owing to the action of the nitric acid. Some of these crystals exhibited the cylindrical appearance so frequent in crystals of uric acid, and as these were seen in larger bulk, their colour was a much deeper violet. These experiments were, of course, made previously to the deposition of the large amount of urate of ammonia I have mentioned.

This case illustrates the necessity, in testing for albumen, of applying heat and nitric acid to the *same* portion of the fluid; the separate application of these agents to different specimens of the same urine might lead to an erroneous inference.

Dr. Johnson informs me that this urine was drawn off, between three and four weeks after her confinement, from a lady, who subsequently suffered from a severe attack of puerperal metritis, from which she is now convalescent. On account of a tendency to diarrhœa she had been obliged to take opiates constantly, which appeared to produce retention of urine, for as soon as the opium was discontinued, the bladder began to act. Prior to delivery the patient had œdematous swelling of the hands, feet, and face, and it was reported that, at that time, the urine was albuminous. The lady was not then, however, under Dr. Johnson's care.

On the Truces and Cure of Venereal Affections. By Dr. PIETRO GAMBERINI, Assistant Physician to the Hospital of Saint Ursula, at Bologna.

IF there be a contagious affection, accompanied by many strange and equivocal circumstances, it is certainly the syphilitic taint, whether we consider its protean modes of appearance, or the fact of its embracing an indefinite period of sufferings, which once passed give rise to the flattering conviction in the patient's mind that he has no more to dread, but are followed by the day which cruelly destroys his golden dreams of happiness and health.

When the violence of small-pox is subdued, the disease may again be encountered almost without fear of injury; the individual who has passed through measles, scarlatina, or the perils of petechial typhus, may, in general, reckon on future immunity from similar invasions of these scourges; but he who has been freed from the primary effects of the venereal poison remains capable of contracting it anew; while in those who have been cured of the consecutive lesions under the form of any syphilitic affection, it is rarely difficult to cause a relapse of the malady, even for an indefinite number of times. This circumstance, which is merely the expression of a fact of daily occurrence, clearly demonstrates that while the time of action of the other contagions is of short duration and uninterrupted, that of the venereal virus is, on the contrary, irregular and indefi-

nite; relapse of the former is a most singular exception, the reappearance of the latter is the almost characteristic rule of its nature; the first are, at the same time, evils and remedies, the second is purely an evil, because it does not prevent the contraction of a new infection.

Syphilis, then, is composed of repeated possible and easily occurring primitive infections, and of constitutional sequences, which latter undergo most easy and almost constant relapses before being completely eliminated and destroyed. Studying these relapses with attention, I was led to observe a series of circumstances which I deem worthy the attention of the practical physician and surgeon, whether with a view to the right interpretation of the facts, or to the judicious selection of the several remedies suggested in the various forms of syphilitic affections.

Between the several recurring appearances of the venereal disease there is an indefinite, irregular, and variable period, which may be called *a truce;* this it is which indirectly leads to cure, and hence it is by many confounded with the cure itself. I now propose to speak of the causes, importance, and description of this truce, studying it at the same time under its extrinsic and direct relations, and under its concomitant pathological and therapeutic conditions.

Primary syphilitic lues has no truce; chancre and blennorhagia, when they have once manifested themselves, generally run through their proper phases to the complete cessation of all characteristic symptoms, without the occurrence of intervals worthy of the name of truce; for by this term, used with reference to this disease, I mean the complete cessation, for a given time, of everything constituting a visible and sensible phenomenon of the venereal affection, whatever it may be, which was in progress. It is true, that occasionally the urethral discharge or the ulcer will, after they have disappeared, subsequently seem to return, but a little attention will in such instances show one of two things, either that the ulcer had not completely cicatrized, and the discharge had continued in a masked form, or that they now constitute a symptom of constitutional syphilis; in the first case, cure was erroneously supposed to have taken place; in the second, we have no longer to deal with a local or primary syphilis, but with a secondary and constitutional taint.

What I have said of the two most common forms of venereal disease is equally true of inflammation of the inguinal gland or bubo; and this will be more apparent if we recollect that this disease can simulate the truce, in the sense adopted by me, only in the eyes of a very careless observer; for as long as the seeds of disease remain in them, we never find the glands of the groin in their true physiological state, but turgid, troublesome, and irritable; this is exemplified in the rare cases of sluggish buboes consecutive to any antecedent primary ulcerous infection.

The truce, then, as I employ the term, is an exclusive and characteristic phenomenon of constitutional syphilis; the medical man

sees it in its true light; the non-medical man mistakes it and describes it by the ancient adage, that he who has been tainted with syphilis is always cured except the first time, a popular saying, which, like all the proverbs inherited from tradition, has its side of truth.

The truce, so far as I have had opportunity to observe, is at one time spontaneous, at another artificial, that is to say, it is sometimes the consequence of treatment employed while the disease was manifest. And first, in reference to the spontaneous truce, I will say, that it is the basis of the several manifestations of constitutional syphilis, or, in other words, of the several successions of venereal affections which almost constantly exhibit themselves in syphilitic patients; in fact, before constitutional lues emerges from the local, an indefinite lapse of time takes place, which serves to prepare that modification of the venereal poison which is to act under the form of confirmed lues; and this is the true truce, inasmuch as, notwithstanding the presence of the pathological agent, the patient, at least in the generality of cases, does not suffer any inconvenience; if the reverse be the case, the truce has disappeared to give way to the first symptoms of the now developed disease.

Another kind of spontaneous truce takes place when constitutional venereal symptoms exist in cases not yet subjected to any curative treatment.

I shall now proceed to give a faithful description of the phenomena spontaneously produced in the natural course of the disease.

Ricord has endeavoured to establish, by almost constant laws, the well-known theory of venereal successions, distinguished, as every one is aware, into primary, secondary, and tertiary. I will not dwell on the inexactness of this division, because, in other writings, I have opposed it by reason and, what is still better, by facts. I say, then, that the truce serves at one time to reproduce the passed syphilitic phenomenon, and at another gives origin to a different venereal affection, after which, a truce succeeding is again followed by the manifestation either of the first phenomenon, or of another totally different, which may, in some cases, assume a form so mysterious and equivocal as to embarrass the most experienced practitioner, the most philosophical and analytical physician. This is the commencement of the protean syphilitic lues, which may appear with the most characteristic sign, or may sometimes assume the darkest disguise, of that lues which passes silently and insidiously from the most simple and most accessible to investigation of the organs or tissues, to the most complicated and most deeply-seated viscus. The following cases may be quoted in illustration of what I have advanced:—

CASE I.—Angelo R., having contracted a primary ulcer, had, after eight months, a troublesome ostealgia, which lasted fifteen months, after which a truce of half a year occurred, followed by an extensive maculated syphilitic eruption, which yielded in a short time to the use of mercury.

CASE II.—Clement L., after repeated infections with primary ulcers, was attacked with a syphilitic papular eruption, which was not treated, and lasted two months, when it completely disappeared. A similar occurrence took place during several springs, lasting each time about two months—no medical treatment having been ever employed. Finally, the papular became converted into pustular syphilis and palmar psoriasis. A judicious employment of mercury put a stop to the annual recurrence of the disease.

CASE III.—Antonio P., some months after having had a primary venereal sore, was attacked with mucous papulæ, which were left to themselves, and slowly disappeared; the patient, not having perceived any trace of syphilitic taint for some time, thought himself wholly free from it, when a mild nocturnal arthralgia came on, which soon went off without treatment, leaving a truce of about four months, at the end of which time the above-mentioned papular syphilis reappeared.

CASE IV.—Luigi B. contracted a chancre, followed by a suppurating bubo. About seven months after he got rid of these affections, a venereal ulceration appeared in the throat, which was not treated; nevertheless a truce of some months took place, at the end of which an extensive pustular syphilitic eruption came out, which, likewise left to itself, gave way to a second truce; this was followed by osteocopic pains; these, after repeated truces, finally ceased under a treatment consisting of the administration of mercurials, followed by the use of iodide of potassium.

Were I to continue the enumeration of similar cases, I should do no more than narrate facts of common occurrence in every venereal hospital; I shall, therefore, simply state that confirmed venereal lues is exceedingly versatile in its manifestations, and although, in very many cases, it observes the laws of succession announced by Ricord, the phenomena, which are thus occasionally successive, in several instances vary, appear simultaneously, or are transposed until, the entire organic system becoming contaminated, that general form of syphilis is developed which is called venereal tabes, or consumption, a condition, in one instance, easy of recognition, from the characteristic nature of some attending constitutional symptom, while in another it will be rendered obscure by the masking of its phenomena; to meet which latter case some employ the term pseudo-syphilis, signifying thereby an amorphous disease devoid of decided colouring, or well-marked fundamental characters. This language seems to me to be inexact, for, in the complex disease, either we have the traces of syphilis mixed with complications, or such traces are wanting, and are rather suspected than demonstrated; and yet, in both these instances, the word pseudo-syphilis is employed. Venereal lues is always identical with itself, and therefore, when it exists, maintains its proper pathological and therapeutic essence, whether its symptoms be isolated, or whether they concur with other morbid casualties. The term pseudo-syphilis, then, appears

to me to have been unhappily chosen, and to represent an idea which is too much opposed to true syphilographic philosophy.

But to return to the subject of the spontaneous truces of constitutional syphilis, that is to say, of those truces which occur in patients who have adopted some form of treatment, observation has shown me, that the affection which most readily admits these truces is osteocopic pain, which goes and comes repeatedly and indefinitely for months and years, at one time in a masked form, and at another with the most evident characters; the former is usually mistaken by careless observers, and confounded, to the patient's injury, with the effects of a draught of air, checked perspiration, or atmospheric humidity—an etiology acceptable enough to those who, while they lament the inefficiency of the means employed to relieve their pains, do not wish to believe that they labour under a venereal taint. But, after a repetition of such truces, we have at length not merely osteocopic pains to deal with, but a material lesion of the bone, periostitis, or exostosis—affections immediately resulting from osteitis, when a vigorous and suitable treatment has not been adopted.

In reference to the frequency of easily occurring truces, syphilitic catarrh, and then affections of the skin, come next to ostealgia; maladies which, when mistaken, are referred to acid humours, catarrhal diathesis, &c. As to the affections of the skin, although they sometimes recur with varied aspect, they do not, in my opinion, present the variety that might be expected, or such as occurs between ulcers and nodes, rheumatalgia and periostosis.

If we admit these truces of the phenomena of constitutional syphilis to be established, we should next inquire if they proceed from a natural law of syphilis, or from causes extrinsic to this disease.

In answering this question I shall give the results of ten years' observations. I have seen patients who remained infected with chancres or blennorrhagia fall very rapidly into a state of confirmed syphilis, which, without any interval or truce, brought the patient into a condition of health so bad as to threaten to destroy life if medical aid did not quickly interpose; this uninterrupted course of lues at one time proceeds slowly and mildly; at another, it advances with quickness and severity; in the former case the morbid phenomena are usually variable and superficial; in the latter, on the contrary, they are constant, deep-seated, and different forms of the affection often coexist. The cases of such an unbroken chain of syphilitic affections are not frequent, and are chiefly observed in subjects of a lymphatic or decidedly scrofulous habit, in whom venereal symptoms are usually both severe and obstinate, in addition to which a circumstance occurs to complicate the treatment, which is, that while the scrofula appeared in consequence of the syphilitic infection, and was, therefore, subjected to mercurial treatment, a period arrives when the scrofulous symptoms continue, while the venereal poison which excited and produced them has been subdued and an-

nihilated; a period in which, I say, the disease has been converted from syphilitic into simple scrofula; and while it is extremely difficult to lay hold on this pathological moment, it is, at the same time, necessary to recognise it in order to alter the treatment, for I have, in the generality of cases, observed that while mercury was exceedingly useful in syphilitic scrofula, it was most injurious when the latter disease was removed from the influence of the venereal virus. The following is an example of a remarkable circumstance connected with these cases:—A form of the disease above mentioned was improved by mercurials, until it was found necessary to suspend their use, which was done with the greatest benefit, and with almost complete cure of the glandular disease, when the latter again set in, the glands enlarging, and necessitating a return to the use of mercury, which duly administered completely removed the symptoms.

Having alluded to the instances in which lues never intermits or forms a truce, I will say that in the greater number of cases, I mean those which are treated for the first time, syphilis appears in connexion with truces in the sense I have laid down, independently of the temperament, constitution, and habits of the patient, and without our being able to refer these truces to the influence of the seasons, of the climate, or of the atmosphere; for they evidently have their origin in the protean developments of syphilitic symptoms which are insidiously preparing to exhibit themselves at the proper time with characters at one time sensible, at another visible, and again, with both these qualities combined. We may add, that such truces are sometimes, as I have elsewhere pointed out, far from being the fulcrum of the numerous and varied evolutions of the disease, only the corner-stone of the same venereal affection which continues unchanged and constant; just as, during the repose of the vegetation of trees, the latter become deprived of their leaves to be in due season reinvested with the same: the plant is in our case constitutional syphilis, while its symptoms may be compared to the leaves.

If we compare the number of syphilitic patients who enjoy the benefit of spontaneous truces, with that of those who have not such intervals, we shall find a decided preponderance of the former class. The truce then of constitutional venereal symptoms is one of the special characters of syphilis, a disease which, while it lasts perennially within the system, becomes concealed and latent, to be subsequently called into action by particular circumstances. From the results of my own observations I should say, that the causes of the spontaneous relapses of lues are usually the following: the change from the cold of winter to the warmth of spring; drinking and bathing in mineral waters, and especially sea water; living in a damp house or situation; want of sufficient diaphoresis; want of wholesome and nutritious food; traumatic lesions in any part of the body which seem to elicit the latent venereal taint; in fine, all that tends to weaken the physical power by impoverishing the system, or serves to depress the strong qualities of the mind by casting the individual into the abyss of the passions, which deprive the

body of energy more quickly and more certainly than physical evils, consuming it slowly and uninterruptedly[a]. The foregoing etiology receives confirmation from the observation that most destructive syphilitic actions take place in those who are subjected to the causes just now enumerated. So that I am persuaded that when we have to do with slight venereal disease, accompanied by truces, and can in such cases remove all that tends to disturb these truces, the disease will slowly but eventually be annihilated by the force of the healing powers of nature, which, when well seconded in its operations, constantly tends to repel from the system all that is extraneous, hurtful, or prejudicial; but it is, in my opinion, because no one, or scarcely any one, is capable of making the absolute sacrifices demanded, of following the rules, and obeying the directions of the physician to the full extent required, that we do not see the spontaneous cure of syphilis, which, if we reflect, is not in the generality of cases dangerous, though it gives us reason to fear for the seat in which it manifests itself, the organ it attacks, the viscus it injures. In fact, where is the danger in cases of affections of the skin, of alopecia, of rheumatalgia, and such like? And where, on the other hand, can we find ground for a favourable opinion in cases of ozæna, of ulcerated throat, or of chronic osteitis?

I have said that I believe in the spontaneous cure of the slighter forms of syphilis; I think differently, however, when this disease is severe and threatening, because in such cases, far from ceasing in consequence of the beneficial interference of nature, it only runs a ruinous and fatal course, if we do not oppose its progress with all the therapeutic means which have been sanctioned by the experience of ages as fittest and most useful. Woe to the practitioner who, trusting in a temporary lull, would stand idly looking on; he should find nothing but mutilation, ruin, and even death, reproving that too far stretched expectation carried unmeasuredly into the treatment of diseases, as if nature would suffer herself to be ruled by the coaxing look of the inactive physician.

The natural and spontaneous cure of constitutional syphilis is, then, an event in its nature probable, and by no means repugnant to the essential character of the venereal contagion; but such a result is, strictly speaking, not to be obtained, at least dating from the commencement of the disease, for whoever suffers from such a taint will not fail to make attempts to get rid of it, and medicine is within the reach even of the poorest,—for these reasons I do not consider that we have any certain, unexceptionable, and unequivocal evidence of the absolutely spontaneous cure of general syphilis. I know that there have been instances of slight secondary venereal affections which got well under the use of ordinary remedies, neither mercurial nor antisyphilitic; but, as was to be expected, such medicines had little or no directly or radically curative effect, as was

[a] Dr. Gamberini here omits the most important and manifest of all these causes, namely, in the female sex, the occurrence of pregnancy.—ED.

evidenced by the reappearance from time to time of the morbid phenomena; still these repetitions took place with a constant decrease of symptoms and annoyances, until it was no longer possible to detect the presence of the venereal virus in the individuals affected. But I do not call such a cure spontaneous, for here we had the interposition of a medication, which, although not specific, had an indirectly therapeutic influence, as I shall show in speaking of the relations which exist between the treatment, truces, and cure, of constitutional syphilis.

In admitting cases of syphilis as spontaneously cured, it is necessary to be exceedingly circumspect and watchful, because, while there are authors who relate such instances as happening by preference in southern climates, there are others who deny their occurrence in these localities; a discrepancy which, in my opinion, proceeds from the too great value set upon the truces, and from the relief obtained in the generality of cases by the patients in the hospitals; a ground for induction which is scarcely safe, because we usually have only a temporary, and often an incomplete and equivocal, observation of these patients: when, therefore, we speak of decided and positive relief of syphilitic affections, we must recur to private practice, as affording opportunities of watching patients for many years, and of tracing the steps and attending circumstances of a taint so malignant and protean as that of syphilis.

From the facts I have observed it appears to me that the probably spontaneous cure of syphilis takes place more easily in those cases in which the general taint has sprung from urethritis; a primary form, which, principally attacking the osseous system in its secondary effects, is less hurtful to life, because it affects parts which have less influence thereon, while at the same time it occasionally leaves inevitable and indelible traces of its passage. So that if constitutional lues, arising from chancre, is less disposed to a spontaneous cure than that derived from virulent urethritis, I think (and I am supported in this opinion by the results of clinical observation), that this proceeds from two causes: first, because lues from chancre more easily invades those parts of the body which are in an important and necessary manner connected with life; and, secondly, because this form is, on account of its severity, seldom left to itself, but is, on the contrary, subjected to at least some treatment, but most frequently to the use of a remedy of known antisyphilitic power, in consequence of all being agreed on the essential venereal value of primary chancre, while not a few think differently as to the fundamental character of blennorrhagia: an idea which reason and experience ought to banish from syphilology, as it is opposed to both; but I shall not here dwell on this point, because I think I have said enough, and adduced sufficient proof of my views in my various writings on clinical syphilis[a].

[a] From these remarks it is evident that the author is a believer in the unity of the syphilitic poison, and that blennorrhagia is one of its forms.—ED.

I now proceed to speak of the truces and cure of constitutional syphilis, in reference to the specific and non-specific therapeutics of that disease, with a view to discover the value of the various and opposite medicines which have been recommended.

In the first place, I think I ought to remind my readers that the curative plans proposed in confirmed lues are two in number, the so-called antiphlogistic and derivative treatment, and the established specific mode, consisting in the use of mercury and of the preparations of iodine. The followers of these two methods have sought to support their respective systems with arguments and facts, occasionally not omitting the degrading custom of calumny, insult, and falsehood, as if science ought to mix herself up with the trivial and passing habits of society. But as truth is sole and indivisible, the moment arrives, in spite of all efforts to keep it back, when it must be made manifest. The *true* therapeutic remedy of syphilis is mercury, and its principal substitute is iodine; the *false* is all which is not mercury or iodine.

It now remains for me to show how the syphilitic truces have confirmed the pretended value of remedies which are neither mercurials nor preparations of iodine, and that not only has injury thus arisen to syphilographic science, but, what is worse, what detriment patients generally receive from such medicines.

From what has been above advanced, it appears to be demonstrated that constitutional syphilis has in itself the source of the spontaneous truces, or, as I have said, the temporary cessation of its material and visible phenomena. Now, if a purely antiphlogistic medication be employed on the invasion or during the continuance of some venereal affection, and if its use be followed by a truce, will it be fair to deduce, and what is worse, to maintain, the curative value of the treatment adopted? In running over the histories told us by the advocates of this species of therapeutics, we can lay hold on nothing positive, for either they speak of relapses, or they leave their observation incomplete, inasmuch as they do not continue to look after the patient who was the subject of their report, and the ease with which relapses of syphilis take place is known to all. I may add, that not only I, but many practitioners have had to treat not a few of the patients who were said to have been cured with antiphlogistic remedies, and whose cases were described in the periodicals; and yet in these cases the inadequacy of the plan was evident, and we smiled at the credulity of the reporters. An involuntary mistake, proclaimed with the sanction of a respectable name, drew with it error on the part of those who rested on that name; and thus truth was set aside until it found reception and support from some other physician whose love of truth made him fearless of encounter.

Were I to quote clinical facts in support of my assertion, I should but carry vases to Samos and bats to Athens; it is enough to read what the antiphlogistic method has done, and is doing, in the treatment of constitutional venereal affections to induce us to bewail the lot of the patients who were the subjects of it: those who saw a ray

of hope in the appearance of the truces quickly fell into a worse physical condition when those truces ceased,—an unfortunate event founded on two circumstances, the first based on facts observed by me as well as others; the second on the following,—that syphilitic patients, who are much restricted in their diet compared with those who live freely, are generally in a worse condition than the latter; and further, those who are kept on a limited diet while under treatment do not long bear it; while the reverse is the case where the opposite plan is adopted; and moreover, I have witnessed several different antiphlogistic modes employed with syphilitic patients for a very long time, at the end of which a patient rather reduced in condition would be found with apparent cessation of the disease, and would be declared cured, although the supposed cure was no more than a truce, and when the case was left to itself the disease would reassume its bad type, with symptoms at one time purely visible, at another exclusively sensible, and still more frequently, with characters of both kinds. It appeared as if the virus, rendered inexpressive though want of organic energy, became stunted, or, as it were, masked, to increase and embody itself when the fibre should regain its natural strength.

I am aware that the anti-stimulist does not acquiesce in the existence of syphilitic truces, and will suggest to me the necessity of persevering with his method, so as to combat and completely destroy the masked or stunted appearance of syphilis, which I have above supposed. But if we continue to withhold stimulants, and to depress syphilitic patients, what I have repeatedly observed will happen, that is, in the most favourable cases we shall be obliged completely to suspend this treatment, either on account of the derangement of the stomach, or of general exhaustion; or, what is more likely to take place, a cessation of the truce will supervene, leading to the severe and threatening form of syphilis, which endangers the patient's life, unless mercurialization be quickly interposed, which sometimes, although employed thus late, restrains, it is true, the virus a little, but does not prevent the morbid results which the venereal poison has imprinted on the system of the unhappy sufferer.

The truce then is, in such an instance, the illusorily beneficial effect of the antiphlogistic treatment, of that treatment on which some obstinate systemists still rely, but which is rejected by the faithful observer of the morbid results of lues venerea.

What I have said applies equally to the various modes of treatment which completely exclude the use of mercury: the employment of the preparations of gold and of silver, the acids, concentrated diaphoretic syrups, &c.; these in most cases induce truces, which are too readily denominated cures; I say advisedly truces, reflecting that if such remedies were really of use, they would not be condemned to oblivion, or they would be frequently employed, which they are not. I may add, that to my own knowledge, many of the persons so treated were in the end obliged to have recourse to the

use of the sovereign antisyphilitic—mercury. I will certainly not venture to deny that in some instances cure has followed the employment of these remedies: but I will add, that in the great majority of such cases mercury had previously been exhibited, a fact which greatly lessens the absolute value of those non-mercurial medicines. It is the truces which mislead, and they do so the more readily the longer they are protracted.

It is now time for me to speak of the syphilitic truces which succeed the use of the preparations of mercury and of iodine; and in the first place I will remark, that the true, the most frequent, and most complete truces are those which are subsequent to the administration of these medicines; this appears to me to be what we should expect, seeing that we now have the disease in conflict with its true remedy, which, if it does not succeed in subduing or destroying, is certainly capable of restraining and circumscribing it. If then the truce be nothing more than a temporary suspension of the malignant operation of the constitutional venereal virus, if this truce be a natural phenomenon of lues, it follows that all which tends to oppose the malignity of the syphilitic poison must lead to a more easy and ready truce, though it may not effect the cure of the complex pathological condition; mercury and iodine combine this result, and thus, with the greatest facility, induce the truces, and in due time the cure of syphilis: which cures, too quickly proclaimed, or too eagerly seized on, often prove to be no more than complete and prolonged truces.

When mercury and the preparations of iodine are employed for the cure of some syphilitic affections, not before subjected to treatment, they do not effect their object on their first administration, though this be carried on with all possible caution and regularity; a favourable truce will, however, be obtained, a stable and perfect cure will be had, I venture to say, but rarely, and only as an extraordinary exception. In truth, I frankly confess, I have observed that the almost invariable rule for obtaining a radical destruction of syphilis is to repeat the anti-venereal treatment twice, thrice, or even oftener, to each of which repetitions a truce suceeeds more manifest and more complete than the preceding one, which truce is a direct step towards the attainment of perfect cure, for it appears that syphilis cannot be eliminated from the system otherwise than *à reprises*, and by a decreasing scale, and not instantaneously or without undergoing, as it were, a dilution, and gradual wearing out.

There are some constitutional syphilitic affections which undergo truces with more readiness than others, and therefore relapse with greater frequency and facility. Amongst these, osteocopic pain holds a very prominent place, which, if it is treated with mercury, or with iodide of potassium, is latent for a time, then returns, again undergoes a truce, and finally returns, it may be repeatedly, to harass the patient. Before iodide of potassium was recommended as a specific in this and other so-called tertiary forms of venereal

disease, mercury was employed certainly with profit, still ostealgia ran its course. When the ioduretted preparation came to be used in such cases, it was asserted that the relapses of osteocopic pains proceeded from the use of mercury, and that, therefore, mercurials ought to give way to the iodide of potassium, the sovereign remedy of tertiary syphilis, as that which cured it *tuto*, *cito*, *et jucunde*. Then medical men were heard to narrate its prodigies; the journals proclaimed its miracles; prodigies and miracles which were often but truces, entirely ceasing in time: and this statement is so true, that the very advocates of the iodine came to a more moderate conclusion, which Diday of Lyons, at the present day, expresses thus:—"The iodide of potassium palliates these pains more frequently than it cures them without relapse; but to compensate for this, the relapse, though it be frequent, does not fail to obey the remedy." What the French surgeon says of osteocopic pains is also applicable to periostitis, nodes, exostosis, muscular contraction, and such like affections, in which I every day see how the iodide of potassium exercises but a moderate effect, for if we depend on it alone, a cure only takes place after relapses, and is but rarely obtained as decidedly as when mercurials have been used. From the common occurrence of such instances in the Hospital of St. Ursula, we have been led to frame the following therapeutic axiom,—that the iodide of potassium is the best substitute for mercury, but that the latter is the antisyphilitic remedy *par excellence*, and that it increases the beneficial effect of the iodide, if it has been administered before it.

Every medical man who has had the care of many syphilitic patients will have observed that sometimes the venereal symptoms in those who are subjected to mercurialization, or to the action of iodides, diminish as if by magic; as on the other hand he will have met cases in which a form of disease, slight, or at least appearing to be slight at the commencement of the treatment becomes aggravated in proportion as the latter advances. The former occurrence might very well be attributed to the circumstance of an impending natural truce of the lues, as the second might be explained by the patient being in one of those intervals in which spontaneous syphilis arises and increases; so that two elements compose the desired state of well-being of the patient, the spontaneous truce, and the use of mercury, which fructifies and perfects it, while at the same time it combats and annihilates the general taint; in these cases, however, such rapid improvement is usually not of long duration, or at least it does not afford a certainty of complete cure, except in patients who have already undergone repeated and regular antivenereal courses of treatment. Two elements, moreover, in my opinion, determine the second fact above mentioned, that, namely, of the aggravation of the syphilis by the exhibition of mercury; the first being, as I said, the natural recurrence of the venereal exacerbations; the second produced by the energetic and powerful action of the mercury, which, like a lever, tends forcibly to expel what before lay dormant and concealed: the truces which ensue in these

cases are usually more complete and more lasting, and we may even sometimes hope for a real cure, for such struggles in general take place only in patients who have scarcely employed any true venereal remedy, or rather, in those who for the first time labour under a syphilitic taint. Recapitulating the axioms just now laid down, can the physician with certainty decide when he has to deal with a truce, and when with cure?

The lover of truth who excludes from syphilology the idea of the unity of constitutional venereal infection, or, as some will have it, that a man can receive a general syphilitic contamination but once in the course of his life, must confess, in view of the clinical facts, that the things I have hitherto said in reference to truces, whether spontaneous or produced by remedies, are liable to different interpretations; for the fact of constitutional lues produced by a single infection is one thing, and that of an individual who has suffered several infections, whether these be chancrous or virulently blennorrhagic, is another. I have watched the course which constitutional syphilis ordinarily presents in those who have repeatedly had primary venereal disease: here, too, truces were observed, but they were rarely so perfect, and seldom relieved the patient so much as is usually the case in syphilitic patients who have suffered but a single contagion. On referring to my registers of syphilis, in which I have noted about a hundred cases of disease, I have been able to deduce the following propositions in reference to repeated primary syphilis:—

1. The truces retained in a greater or less degree some visible or sensible trace of constitutional lues; they were not complete truces.

2. The new local and primary contamination, quickly becoming a constitutional venereal affection, presented an obstacle to the occurrence of the truces, because a sort of uninterrupted chain of syphilitic sufferings was thus formed, in which, instead of the truces, only a temporary decrease of disease took place, or, as in some fortunately rare cases, a localization ensued so obstinate as not to yield to any treatment, in consequence of which the disease continued for an indefinite time. In every venereal hospital incontestable proofs of this statement may be found.

3. Repeated primary venereal infections give rise to a syphilitic condition so protean and variable, to epochs so uncertain in their appearance, as to demand the greatest diagnostic skill in the medical attendant, and to require extreme endurance in the patient. In these cases, however, we finally though tardily succeeded in obtaining perfect truces, that is to say, provided a long time elapses without the reception of fresh infection, and that judicious and repeated anti-venereal remedies have been employed.

And why should we be surprised at the fact of repeated venereal infections favouring a continued and variable succession of general syphilitic phenomena? If the superadded and repeated concurrence of morbid causes serves in the generality of instances to greatly increase the intensity of the disease to which they give rise, why should

the multiplied primary venereal infection prove an exception? If our system were no longer capable of receiving the influence of fresh venereal infections when constitutional syphilis had already been developed from a preceding contamination, why does it not behave when it comes in contact with the venereal virus as it does with the virus of small-pox when this has previously had an opportunity of producing its effect? If the absence of local variolous development from infection indicates that our system is no longer in a condition to appropriate the material of the contagion from which the disease of small-pox proceeds, I would say that the repeated development of the venereal virus exhibits the susceptibility of our system to imbibe the poison which causes a repetition of constitutional syphilis; a susceptibility which is in my mind established, as I have observed that as a general rule a manifestation of constitutional lues sooner or later succeeds to a new chancrous infection. The poison of these new ulcers going to form constitutional virus explains, in my opinion, the derangement of the truces in cases of repeated contagion, whether blennorrhagic or ulcerous.

Having noticed these points in reference to the truces of general syphilis, and having briefly demonstrated the uncertainty of mode and time of these truces, it remains for me to speak of the perfect cure of constitutional lues. That this taint is fully eliminated from the system of those who have suffered from it is demonstrated by facts so clear and full as to remove all doubt from every one who does not delight to wander in the region of clouds and sophisms; but what greatly embarrasses the physician and torments the patient is the uncertainty of the period at which true cure takes place. This unfortunate circumstance constitutes a new, and I venture to say an exclusive character of syphilitic contagion; for while the other contagions with which we are acquainted form an uninterrupted morbid chain, terminating at a time approximately known, the venereal infection, on the contrary, runs a broken course, and ceases at unknown or doubtful epochs. Nor is it enough to blame the insufficiency of the treatment, or the intolerance of the patient, in many cases the most perfect therapeutics refute such appeals, though these are very often just and incontestable, so that we are forced to attribute the defect to the nature of the syphilitic contagion itself. To the physician, therefore, is conceded the hope of effecting the cure of constitutional syphilis, as he has the means of accomplishing it; but he is denied a reasonable and absolute certainty of attaining it every time that he makes the attempt; the most that is granted him is that, when he and the patient act with prudence, nature interposes beneficial truces of an ordinarily decreasing morbid character, which, without pointing to a certain and immediate cure, allow the experienced practitioner to perceive that, by persevering in a judicious medication, he shall attain his desired object. The cure, then, of constitutional syphilis is only obtained under special circumstances, and with the aid of time, which latter is not, however, as the superficial observer pretends, necessarily a

space of three years, but may, on the contrary, be shorter or longer according to circumstances, as I have elsewhere pointed out, but which is chiefly influenced in its duration by the occurrence of repeated primary infections.

What I have said describes, if I mistake not, the natural course of general lues, so far as this has been as yet established; should the truth of the disputed subject of syphilization be ever established, what I have advanced would necessarily be modified and partially refuted.

I shall close this essay by reducing its substance to the following heads:—

1. The syphilitic taint, in addition to the intrinsic differences which distinguish it from other contagious diseases, possesses that which I denominate *truce*, or temporary cessation of the visible and sensible phenomena of the malady.

2. The truce takes place either spontaneously, that is, as it were, by a peculiar law of constitutional syphilis, or artificially, from the operation of therapeutic means.

3. The occurrence of the truce has induced a belief in the therapeutic value of the methods of treatment which exclude mercury, which latter medicine has been shown by experience to be the true remedy for syphilis.

4. These truces, whether natural or artificial, lead, in a period of uncertain duration, to cure by means of relapses of a pathological value which is usually a decreasing quantity: this is ordinarily the case if the constitutional disease was the effect of a single infection; the contrary generally obtains if the primary venereal infections were repeated.

5. The cure of confirmed syphilis is accomplished only by means of the truces; it therefore requires an indefinite time for its accomplishment, and demands a proportionally vigorous and repeated treatment.

In conclusion, I have only to observe that my design was not to treat of subjects which were either new, or previously unobserved; but merely to call attention to the contemplation of facts, namely, the truces, which misinterpreted would compromise the character of the physician, and sadden the existence of the patient.—*Bulletino delle Scienze Mediche di Bologna*, vol. xxiii., page 5. 1853.

On the Treatment of the Agony. By PROFESSOR FORGET, of Strasburg.

NEVER despair of a patient while he gives sign of life! If all practitioners were persuaded of the importance of this precept, they would find themselves less frequently deceived in their fatal prognostics; they would less frequently experience the embarrassment of, so to speak, seeing the patients revive whom they had consigned to impending death; while ignorance and charlatanism would more

rarely reap credit at the expense of science, by restoring life and health to those who were deserted, as it is called, by the physician.

This is applicable to all acute and chronic diseases actually in a state of evolution, and of which experience has demonstrated that the issue is almost constantly fatal. For example: how many convulsive attacks do we not observe in children, which seem to announce a fatal cerebral fever, and which nevertheless quickly terminate in recovery. How many typhoid affections are there attended with the most serious symptoms over which art and nature triumph. How many dropsies, consumptions, and even so-called cancers, deceive the fatality of the prognostic. I might bring forward a large number of examples of these apparently desperate diseases, the issue of which has contradicted the best founded predictions. Perhaps I may hereafter draw up a list of these rare cases from my personal experience; but it is to a different branch of the subject that I am anxious at present to call the attention of my readers.

If the public, and even some physicians, always maintain a certain amount of hope of witnessing the cure, or at least the protraction, of the most serious diseases, so long as the catastrophe is not closely imminent, this feeling ceases when the disease has arrived at the point in which the vital principle is about to become extinct, when respiration, circulation, heat, feeling, motion, exist but in feeble traces, in a word, in the confirmed agony.

What is the agony? Etymologically the word signifies combat, and by application, a contest between life and death[a]. Strictly speaking, disease, in general, is nothing else; but conventionally we understand, by agony especially, a very unequal struggle, in which death has manifestly the superiority, in which its triumph is as sure as it is close at hand. Well, it is exactly this certainty and this proximity which constitute the problem, and which sufficiently frequent recoveries should convert into mere probabilities.

In spite of the criticisms which have been brought forward against the physiology of Bichat, his triple life, imitated by that of Barthez, is still received; and it is always correct to say that a man dies by the brain, by the heart, or by the lungs. Certainly death may strike out for itself a passage by any organ, even the least important; it may enter at all points of the economy; but each of these branches leads eventually to one of the centres I have mentioned. We cannot even except the stomach, the fourth branch added by Broussais to the tripod of life, which, in the teaching of that reformer seemed even to aim at suppressing the three others. We might still more simplify this mechanism, and demonstrate in transcendent physiology, that death really takes place only by a single organ, the brain; for it is the cessation of the nervous influx which formally and radically constitutes the cessation of life, even when death appears to emanate from the heart or lungs, for syncope and asphyxia act, definitively, only by suppressing innervation.

[a] ["Agony, the last contest between life and death," *Johnson.*—TR.]

This digression on the essence of the agony is not entirely irrelative to the subject on which we are engaged, for we shall see from facts, that without neglecting other organs, it is particularly by attending to the innervation, or at least to one of its principal attributes—sensibility, that we succeed, in most cases, in withdrawing those who are in the agony from the embrace of death.

The diagnosis of the agony, so far as it is to end necessarily and quickly in death, cannot be accurately defined, but proceeds from the power of appreciation acquired from experience by most competent observers. Thus, the majority of physicians will nearly agree as to the existence of agony, that is to say, on the imminence of death in a given subject; but the agony, in general, has no absolute character by which it can be expressed. It is, in fact, only the last degree of the numerous diseases which may end in death; whence results, on the one hand, the extreme variability of its manifestations; and on the other, the difficulty of determining the moment in which this last degree is produced. A pessimist, over particular, or habitually unfortunate practitioner will consider a patient to be beyond hope, in the agony, whom another physician will trust to be able to restore to life.

The form of the agony necessarily varies, according to the organ from the lesion of which it is derived: when it proceeds from a disease of the brain, the agony is naturally and directly characterized by the early abolition of nervous acts, intelligence, sensation, and motion. It is this which takes place in the apoplexy called *foudroyante*, which, as we know, rarely produces sudden death. In serious diseases of the brain, in fact, the nervous functions are first profoundly impaired, respiration then becomes embarrassed, the pulse grows weak, the extremities cold; and it is the combination, and the threatening and increasing degree of all these phenomena, which constitute the agony.

But if the agony proceeds, in the first instance, from the circulatory centre, one of two things happens: either the heart becomes considerably weakened and even ceases to pulsate; then the blood no longer vivifies the organs, and the patient loses sensation: such is syncope, apparent death, which, if prolonged a little, becomes real; or an impediment to the circulation gradually brings about an enlargement *à tergo* of the sanguineous vessels; the lungs become congested, the nervous system is attacked with stupor; but little blood, and that imperfectly arterialized, reaches the organs; cyanosis, tracheal râle, gradual asphyxia, weakness of pulse, coldness of the extremities, supervene. Such is, in this case, the evolution of the agony.

If the lesion primarily affects the lungs, these organs become loaded with venous blood, mucus, serum, pus, &c.; as above, cyanosis and gradual asphyxia are established, the heart grows weak, coldness by degrees seizes on the extremities, the brain is smitten with stupor, the agony exists.

These several phenomena may, in each species of agony, be combined

and succeed one another in various ways. However, there are two of these symptoms which, in significance and importance, surpass all the others: the first, which in almost all kinds of agony constitutes the true thermometer of vitality, the touchstone of the physician, is the state of the pulse. However grave the situation of the patient may appear, if the pulse keep tolerably full, resistant, and regular, all hope is not lost. When, on the contrary, the pulse progressively and rapidly diminishes in fulness, consistence, and regularity, death is approaching. It is irrevocable only when the pulse, or rather the heart, has, for some moments, ceased to beat.

The second phenomenon which, though more apparent than the first, is less important, is the tracheal râle. This sign is to the vulgar the most significant, and has, therefore, been styled the agony or death-rattle. When it sets in and is heard at a distance, no one doubts the near approach of death. This râle is produced in almost all cases, whatever be the cause of the agony, whether the latter commence by the brain, the heart, or the lungs; for it results from the progressive debility, which, affecting the expulsive powers of the lungs, allows the mucus to accumulate insensibly in the bronchi; whence arises slow asphyxia, the ultimate phenomenon of almost all agonies. And yet, this pathognomonic sign of the agony, this fatal forerunner of death, may, under many circumstance, be charmed away, and bears, I repeat, less absolute importance than the failure of the pulse. I have never seen patients revive after a prolonged cessation of circulation, while I have seen a considerable number rally, in whom the tracheal rattle existed for a long time.

Loss of consciousness, coldness of the extremities, even the cadaveric countenance, have much less significant value than the two preceding phenomena.

In fine, the hippocratic face; paleness; lividity of the skin and mucous membranes; half-closed eyelids; convulsed eyeballs; muscular prostration; diminution of the general sensibility, of the special senses, and of the intellectual faculties; coldness of the extremities; characteristic sweats; laboured stertorous respiration; small, irregular, soft, slow, or frequent, intermittent pulse; difficult or absent deglutition,—such is the group of symptoms which can leave no doubt as to the imminence of death. But even when hope has forsaken him, the physician ought to feel it to be a sacred obligation to act so long as a breath of life remains, and even, in certain cases, when life appears to be completely extinct, as in syncope, asphyxia, lethargy, &c.

Few authors have specially treated of the means of combating the agony. The only one, perhaps, who has studied and developed this important subject at any length is Professor Piorry, in his Memoir on Asphyxia from Bronchial Mucus, and subsequently in his Treatise on Practical Medicine[a]. He not only carefully analyzes the phenomena of the agony, but proposes a number of means calculated

[a] Traité de Médicine Pratique, tom. iii. pp. 105, *et seq.*

to remove it. However, he appears to me to aim too exclusively at directly unloading the bronchial tubes, and among the plans he points out there are some of little value; but I will return to this subject.

We have seen that the phenomena of the agony are so connected that they might be finally referred to a single one,—want of innervation. However, art, less strict than science, permits and even requires us to distinguish several kinds of agony to facilitate description and to meet the necessities of practice. We must then, in fact, admit three species of agony:—1. Agony by defect of innervation. 2. Agony by defect of circulation. 3. Agony by defect of respiration,—the latter being very frequently combined with the two others, as cause or as effect. I shall quote some cases belonging to each of these three categories.

CASE I.—M. T., a little girl of four years of age, strongly built, of a sanguineo-lymphatic temperament, with a large head, had long suffered from an impetiginous eczema of the scalp. In 1842, having been consulted for this affection, I advised the removal of the crusts by the application of cerate, reserving further directions to another opportunity. Under the use of this simple mean, not only did the crusts become detached, but the eruption completely disappeared. In a few days after, the child became morose and languid; headach soon supervened, followed by fever, delirium and convulsive movements (meningitis). These symptoms were treated by the application of leeches behind the ears, of cold to the head, the use of calomel, &c. The affection became rapidly aggravated, and coma set in. One morning I found the child in a hopeless state: cadaveric paleness; the eyelids half closed; the eyes turned up; the extremities cold; the pulse thready; respiration feeble, with commencing râle; agony. Feeling the necessity of acting vigorously, and recollecting the source of the evil, I had the head immediately shaved and rubbed with a strong ointment of tartar emetic (two drachms of tartar emetic to an ounce of lard), at the same time that the legs were reddened by sinapisms, and a stimulating mixture was exhibited. The eruption was produced between the morning and the evening, and from that time the child appeared to revive. The pulse rose; warmth was restored; motion and intelligence reappeared; in a word, the patient began to convalesce.

I might have employed other means—say a blister to the head. I do not consider the happy issue of the case as the result of such a remedy, but as that of the revulsive and stimulant treatment in general. Is it by displacing the internal phlegmasia, by restoring the cutaneous eruption, or simply by raising the strength, that the stimulants succeeded? This much is certain, that life was flickering, and that it was necessary to rekindle it, even at the risk of aggravating the cerebral inflammation. No time was to be lost. I am far from assuming, alas! that the result will always be as favourable, for I have seen many poor children treated not less actively sink under this terrible malady. The preceding was an

example of what I should be inclined to call *nervous* agony. In the following case the *point de depart* was different.

CASE II.—Madame L. gave birth, in 1848, to twins, which were weakly, and often laboured under illness. During the early period of their existence, one of them was attacked, at the age of four months, with a pneumonia, which, in spite of every care, made rapid progress, so much so, that one day I found the wretched creature pale, cold, almost pulseless, scarcely breathing, in fact differing but little from a corpse. In despair I immediately applied a blister to the sternum, and administered every quarter of an hour a teaspoonful of a mixture consisting of a grain and a half of tartar emetic, dissolved in thirteen drachms of sugar and water. The little creature gradually revived, respiration was re-established, the pulse increased in strength, vomiting and discharges from the bowels took place. The child was saved. It now enjoys good health.

I doubted very much that this energetic treatment could be borne by so frail a creature, and yet to it it certainly owed its life. What was in this case the starting-point of the agony? The lung, undoubtedly; but the anemia was not less threatening than the asphyxia, so that the blister, and even the emetic seemed to me to have acted as much in the capacity of stimulants as of resolvents, at least if we may judge by the promptitude of the result. The following case is of the same nature:—

CASE III.—M. M., Professor at the Military Hospital, aged thirty-six years, of a nervous lymphatic constitution, subject to attacks of gout and asthma, was seized in 1840 with a severe pneumonia, which was treated by bleeding and large doses of tartar emetic. However, the disease went on; the patient was pale, debilitated, subject to fainting fits. One evening, on visiting him, I was struck with his hippocratic countenance, his cadaverous paleness. I was told that he had just fallen asleep. His hand was cold; his pulse vermicular; respiration scarcely perceptible; the patient did not answer to his name. Syncope was evident,—death was at hand. I immediately applied ammonia to the nostrils, and rubbed the face and limbs with vinegar and eau de Cologne. I sent for a large blister, which I applied to the chest, and a stimulating mixture of balm water, orange-flower water, tincture of cinnamon, and syrup of ether, which I administered in small quantities at a time. For long I was uncertain whether life or death should gain the ascendant. At length, at the end of half an hour, which to me appeared an age, heat was restored, the pulse rose, the chest expanded, the patient opened his eyes, and regained his consciousness. He felt so plainly that he had escaped death, that the first words he uttered were to thank me for having restored him to life, and he always retained the recollection of that critical moment, for he recovered then, but died lately of a chronic cerebral affection.

It is evident that had I not chanced to visit him, and had I not employed the active stimulants used to restore him to animation, he would have died. It appears that an acute affection of the chest

may induce death through failure of the circulation; but, in the primary affections of the circulating apparatus, the agony may result either directly from the impeded action of the heart, or indirectly from the influence of the heart upon the lungs.

CASE IV.—M. V., aged 60, of a broken-down constitution, was affected with chronic pulmonary catarrh, with secondary dilatation of the right cavities of the heart, giving rise to palpitations, irregularity of the pulse, attacks of asthma, and, lastly, serous infiltration of the lower extremities. In February, 1852, these symptoms became intense, the dyspnœa permanent, the œdema greater, and, in spite of the employment of appropriate treatment, cyanosis set in. One day I found him in a state of profound debility: his countenance hippocratic; his extremities cold; he had slight comatose delirium; his pulse was weak, unequal, and so slow that it did not beat forty in the minute. It might have been thought that such a state of depression would speedily terminate in death, and a repugnance might be felt to the use of painful remedies which would probably be useless. However, I had a blister applied to the chest, warmed the extremities, and administered a stimulating mixture (lime-flower water, tincture of cinnamon, and syrup of orange peel), *café noir*, and broth. The pulse, warmth, and strength were gradually, but slowly, restored, and the patient lived again. In this case it was through the circulation life was threatened; in the following, although the heart was primarily affected, it was by the lungs that life was near being extinguished.

CASE V.—In 1841, I, with two others, attended General C., labouring under disease of the heart with anasarca. One evening we found him in a state of confirmed agony, with loss of consciousness, his countenance distorted and livid, cold sweats, intense tracheal rattle, convulsive movements, thready pulse, &c. We all thought he had only some moments to live. Already one of my colleagues had withdrawn, when, to clear my conscience, I entreated the other to make some scarifications on the lower limbs, which were considerably infiltrated. He complied and we retired, having tendered our condolence to the family. What was my astonishment next morning to receive a message that the General wished to see me. I hastened to him, and found that he had completely rallied, retaining no recollection of the night, which he thought he had passed in a quiet sleep, this, I may parenthetically observe, ought to reassure us as to the torments which some persons appear to suffer in the agony, who, I am now convinced, are not sensible of any such suffering. But the punctures made had discharged so abundantly, that the patient's bed was soaked with the fluid, which streamed on the floor. The swelling of the limbs had gone down, and the nursetender informed me that the respiration had gradually become free, the pulse and warmth had returned, and intelligence had been restored. The patient, nevertheless, really died eight days after; still he had once rallied from a true agony.

Organic diseases of the heart sometimes give rise to rapid symp-

toms, with sanguineous turgescence, which demand another kind of interference; for example:—

CASE VI.—A man, aged 25, of strong sanguineous constitution, a gardener, came to the Clinique in 1837, affected with narrowing of the aortic orifice and general hypertrophy of the heart. He was subject to attacks of dyspnœa, with impending asphyxia, from which he was relieved by small bleedings and the use of revulsives. It happened that one of these attacks, more than ordinarily intense and obstinate, occurred with a profound feeling of anguish and terror: the face was livid and tumid; the pulse small and intermittent; the respiration stertorous; the extremities cold, so that the bystanders thought death both near and inevitable. Venesection and sinapisms having failed, I advised, in this extreme case, a remedy of energy proportioned to the imminence of the danger, and I caused the four limbs to be covered with cupping-glasses with scarifications, to the number of about one hundred. Soon, under the influence of this vast revulsion, the chest became free, the pulse recovered its usual regularity and fulness, and the patient was saved. Twice, at intervals of some weeks, I removed these formidable symptoms by the same means, but the patient sunk under a third attack, which came on in the night after an act of intemperance.

The cases of agony directly referrible to an idiopathic lesion of the lungs are, as I have said, more common than the preceding; such are the following:—

CASE VII.—M. S., aged 82, for many years subject to gouty and catarrhal attacks, frequently suffers from more or less rapid congestions of the lungs, produced under the influence of very different causes, but particularly of moral emotions, to which his irritable character renders him liable. One evening, during the winter of 1852, after an altercation at play, he was seized with dyspnœa, which in a few moments became so severe as to threaten immediate suffocation. On visiting him about an hour after the commencement of the attack, I found him sunk in a kind of coma, from which he occasionally roused, struggling and crying out, "I am smothering." His face was pale, livid, wild looking, covered with perspiration; his breathing was painful, sibilant, and stertorous; the extremities were cold and clammy; the pulse was scarcely to be felt; the action of the heart was weak, slow, and irregular. I immediately had large sinapisms applied to the legs and arms, jars of hot water to the soles of the feet, a blister to the chest, and gave him alternately teaspoonfuls of balm tea, ether in *eau sucré*, generous wine, &c. By degrees the heat returned; the pulse increased in strength; some efforts at coughing brought up mucous sputa; respiration became freer; the stertor disappeared; consciousness was restored,—but this favourable change required two hours' laborious exertions; then excitement succeeded to torpor. A teaspoonful of syrup of acetate of morphia induced a quiet sleep, and the next day I found the patient

in his usual state. Some months afterwards he sank under anasarca, consequent on dilatation of the right side of the heart.

The following case presents much analogy to the foregoing, as to the phenomena of the agony:—

Case VIII.—M. L., curé, aged 50, was affected with albuminuria, with slight hypertrophy of the heart, and some infiltration of the lower limbs. He also laboured under catarrhal dyspnœa, and was subject to pulmonary congestions, frequently accompanied by attacks of hemoptysis. During a year that he was under my care, I several times removed these latter symptoms by means of antimonials and revulsive remedies. About the middle of September, 1852, the catarrh and dyspnœa being intense, a little blood appeared in the expectoration. The ordinary measures were ineffective. The bronchial tubes rapidly became loaded; and one evening I found him in a state of extreme anxiety,—his countenance livid, wild-looking, streaming with perspiration; his lips blue, his extremities livid, cold, and moist; he had tracheal rattle; and his pulse was slow, feeble, and intermitting. Two ecclesiastics who were present, accustomed to attend the dying, considered that he was on the point of expiring. I applied sinapisms to the extremities and the sternal region, and administered a little balm tea. The asphyxia increasing, the cough being abortive and insufficient to remove the bronchial mucus, I gave him some spoonfuls of a generous white wine which he was fond of, at the same time covering the upper and lower extremities with dry cupping-glasses, to the number of more than eighty. Under the influence of the internal excitement, and of this powerful revulsion, the cough became stronger, the sputa were expelled, the chest was relieved, the skin grew warm, the pulse became firmer and more regular,—but the patient was a little agitated, owing, perhaps, to a slight degree of intoxication, although he had only taken about two ounces of wine. I then added thirty drops of laudanum to a wineglassful of sweetened balm tea, directing that he should have a teaspoonful of it every quarter of an hour. At last, after three hours of anxious and unremitting exertions, the patient fell quietly asleep. The next morning I found him calm, fully aware of the danger he had escaped, and thanking me warmly for having saved his life. The two clergymen were not a little astonished to find their colleague raised from the dead,—to use their own expression. There still remained, however, a slight febrile action and some trifling diarrhœa, which yielded to the application of twenty cupping-glasses, with scarifications, to the thighs, a ptisan of rice and gum, poppy lavements, and attention to diet. But the principal affection, the albuminuria, pursued its course, the anasarca increased, and the patient sank in a month after the circumstances above related.

I might add other examples to the foregoing, although these fortunate cases are greatly the exception, compared with the im-

mense proportion of patients who sink when they have once arrived at the degree of *agony* I have described. We see, however, that there is no situation so extreme as not to leave a ray of hope, and this is sufficient to authorize us to lay it down as a principle, never to abandon a patient until death has actually taken place. But it must be added, that such triumphs are only obtained by means of a strong faith in the power of our art, and of an activity and perseverance which nothing wearies or disheartens, and a presence of mind which nothing can disturb. Accordingly, it will be remembered, that almost all these successful cases occurred in private practice, where the patient is the object of an incessant and active solicitude. However, in addition to Case IV., I might bring forward some instances from my hospital practice. Thus I recollect, among others, a young girl in typhoid fever, over whose face I had thrown the winding sheet to conceal the spectacle of death from those about her, and whom I was not a little put out of countenance to find, at the next morning's visit, quite alive. It is for such reasons that I never omit, in going round the hospital, to prescribe active remedies for patients apparently in agony, directions which are generally received by the attendants with a smile of incredulity; but I represent these prescriptions *in extremis*, as a duty of conscience, a sort of sacred obligation of which it is sufficient if the utility be obtained in one case in a thousand, were that only in prolonging by some days, or even by some moments, the life of the sick. Let us remember, besides, that an instance of success of this kind is that which is best adapted to display the skill of the practitioner, as proving him to be armed with a power almost divine.

What is the use of tormenting poor dying people? is a question we hear repeated every day. In the first place, it is not proved that dying people are very sensible to pain; then we have just shown that these tortures may be good for something; lastly, ask the unhappy being who is suffocating, and who feels himself dying,—ask the weeping relatives who implore you to save him,—what they think of your sentimental philanthropy? But, beyond all these professional considerations, there is something positive, something glorious for science, and happy for humanity, in the consciousness, based on facts both numerous and authentic, that we may succeed.

In looking over the observations I have made, in reference to cases presenting considerable differences, it will be remarked that, after all, our resources are neither numerous nor various. With the exception of some abstractions of blood, or of serum (Cases V. and VI.), these resources consist in the adoption of the stimulant plan, either local or general, internal or external, direct or indirect. And the reason of this is evident, namely, that death resulting finally, from the cessation of the action of the principal organs, the problem consists, practically, in reanimating these exhausted organs, whatever may be the cause of their exhaustion. Here triumphs, in all its splendour, the doctrine of the elements. In fact, it is the

elements weakness, syncope, asphyxia, stupor, paralysis, which we must now combat, in turn or together.

Well, against all these elements it is almost always stimulation we must have recourse to, at the risk of momentarily aggravating the primitive, original element, whether that be inflammatory or otherwise, for, after all, the first condition necessary to being cured is to live, and the question is of retaining life, reserving that of curing for a subsequent period.

As to details I shall briefly explain them, with the assistance chiefly of the valuable labours of M. Piorry. This writer divides the treatment of the asphyxia of persons in *the agony* into the preventive and the curative. With the preventive treatment we have at present nothing to do, for we are treating specially of the confirmed *agony*. It will be sufficient then under the head of preventives to enumerate a warm and dry atmosphere, abstinence from drinks, nourishing diet, moderate exercise, and above all the treatment of the principal disease.

As to curative treatment, we find again set down the inspiration of a dry and warm air, as a mean of removing in the form of vapour a portion of the bronchial fluid; but this is only of slender utility, especially in urgent cases. It appears to me more essential to procure pure and frequently renewed air, to favour the oxygenation of the blood. Abstinence from drinks also is but a feeble auxiliary at the period of urgency I have supposed,—it is, moreover, rendered compulsory by the existence of difficulty of deglutition. Some stimulating mixture, wine, and broth, should be given in small quantities, frequently repeated, care being taken to prevent the liquids passing into the larynx, as was done in most of the cases described in this essay. It is essential to keep the head and trunk raised to favour expectoration in cases of pulmonary obstruction; but in cases of syncope the horizontal position is indispensable.

To assist the efforts at expiration, or rather to promote cough and expectoration, is the fundamental indication in cases of tracheal râle. It is then recommended to induce the patient to cough and get up the mucus; but in the majority of instances strength is deficient, and intelligence has ceased. We should have *tussific* remedies, if I may be allowed the term, as we have sternutatories, emetics, &c. Expectorant is not a synonymous term;—we excite, keep up, and strengthen the cough, and thus the expectoration, on the one hand, by stimulating the general strength by means of aromatic waters, wine, and spirituous tinctures; on the other, by slightly irritating the larynx by means of inhalations, ever so little irritating, acetic, ammoniacal, or other.

General bleeding is rarely indicated, except in cases of manifest congestion. There is danger of its extinguishing the failing powers; so that it may be useful, while we empty the vessels, to insist on the use of stimulants. Local bleeding is less weakening; it is particularly useful combined with derivation, a double effect produced by

cupping-glasses with scarifications, boldly and extensively applied, as in my sixth case.

Without abstracting the blood itself, we may endeavour to deprive it of part of its serosity. On this subject M. Piorry passes in review sudorifics, diuretics, sialogogues, all means on which he justly sets but little value; but he does not, in my opinion, render sufficient justice to emetics as stimulants, and particularly as means of expelling the bronchial mucus; he prefers purgatives, the action of which is too slow, when death is imminent.

In almost every case of obstructed respiration, and consequently of râle, we are led by instinct to apply blisters on the chest, less, certainly, with a view to get rid of the serum, than as a revulsive and general stimulant. With blisters we naturally class sinapisms, and, above all, dry cupping, that powerful agent of combined stimulation and derivation; then stimulating frictions, whether warm, dry, or moist.

We must not forget, as direct modes of unloading parts in various dropsies (Case v.), scarifications, acupuncture, and thoracic or abdominal paracentesis.

Fixed tonics are only accessorily indicated, for in the urgent cases I have supposed we should prefer diffusible stimulants, the action of which is instantaneous; but as adjuvants tonics are rationally indicated.

Opiates should be exhibited when there is acute pain, convulsions, agitation, nervous hyper-excitement, circumstances which are not rare before and after the *agony* (Cases VII. and VIII.) I think I have saved life by means of opium in patients on the point of sinking under the violent pains and convulsions of cerebro-spinal meningitis; but when life is on the point of being extinguished by syncope or by asphyxia, when sensibility and motion are wanting, it is evident that narcotism is contra-indicated,

Finally, inflating the lungs, pumping out the bronchial mucosities by means of a sucking syringe, or tracheotomy, may be found applicable in exceptional cases.

It will be seen that these numerous means are not all equally important, and that it is easy to reduce them to a very small number in reference to the simplicity of the indications. To recapitulate—

The *agony* is not always followed by death.

It admits of a special treatment, like the other phases of disease, just as a distinct disease.

We ought to endeavour to combat the *agony* in all cases, as we cannot tell those in which assistance will be absolutely inefficacious.

The *agony* consists in the diminution or arrest of function of one or more of the organs or systems essential to life. These systems are principally those of innervation, circulation, and respiration.

The *agony* is variable in its forms and degrees; but its several

aspects have this in common, that they appear to portend approaching death.

The curative indication consists essentially in reanimating the functions which are failing.

The means of restoring those in *agony* to life vary but little, whatever be the organ most seriously affected.

These means are almost all comprised under the head of stimulant medication, whether direct or indirect.

It is essential to act with vigour and perseverance, modifying our proceedings according to the indications and the effects observed.

Among the indications, that of re-exciting sensibility occupies the first place, for it is equally applicable to failure of innervation, circulation, and respiration, paralysis, syncope, and asphyxia.

Slow asphyxia, by passive pulmonary engorgement, is the most common, and often the most serious form of *agony;* it may be produced primarily or secondarily.

To re-establish respiration by unloading the bronchi is therefore the most ordinary indication. We accomplish this by stimulating the general strength, and then by exciting the cough, the double element on which expectoration depends.

It is futile to remove the mucus from the bronchi, and excite the cough, if we do not restore to the patient the strength necessary to induce and keep up expectoration.

It is to this end that we apply energetically and unremittingly internal or external stimulants, especially aromatics, wine, spirits, in small and repeated doses, concurrently with blisters to the chest, sinapisms, stimulating frictions, dry cupping, or cupping with scarifications over the entire surface of the extremities and trunk, &c.

The limits of our efforts is marked by a single phenomenon, the cessation of the pulsations of the heart.

If it is true that these efforts are in an hundred or a thousand instances unproductive of any satisfactory result, it is sufficient that their efficacy is demonstrated by some cases which are less rare than is generally supposed to make it right that the practitioner should feel it his duty to adopt them in all cases.—*Bulletin Général de Thérapeutique*, 1853, pp. 97 and 201.

On Urate of Lime in the Coats of the Veins, in Cases of Gouty Concretions. By J. L. C. SCHROEDER VAN DER KOLK.

IT is generally known that in cases of gout in which concretions form, the uric acid is not entirely removed from the system by the kidneys, but that it accumulates as urate of lime in various parts of the body, especially in the fingers. On examining, after death, the hands of a patient in whom these concretions existed to a great degree, I not only found the tendons of the flexors and extensors of the fingers, as well as the ligaments, deeply coated with urate of lime, but also discovered this salt forming tolerably large knobs un-

der the very skin, so that some of the digital nerves were here and there completely surrounded and perforated by it. But my attention was particularly attracted by observing, after I had dried a portion of the skin in which the arteries and veins had been injected with red and blue, that the latter vessels existed as white ramifications, in consequence of the great quantity of urate of lime which had been deposited in their coats, while the arteries were quite free from any such change. The valves of the veins, too, appeared to have been injured or altered by a deposition of the same salt. Thus, we can scarcely ever succeed in injecting the ramifications of the veins, at least those of the fingers, from the trunk; but in this case, I saw to my surprise, that the veins, especially of the hand, and, in a less degree, those of the fingers, became most finely filled with the blue matter, which was injected into the veins of the forearm.

I am not aware whether this alteration of the veins in gout has been described by any writer. That it is closely connected with absorption appeared to me evident from this, that in the situations where the skin was most penetrated with the urate of lime, the cutaneous and capillary veins were most abundantly studded with the salt in their interior. It thus appears that the urate of lime, having been separated from the blood, the tendons, and the skin of the hand, is in part taken up again by the veins, and so becomes more widely dispersed through the system, while part is at the same time deposited also in the coats of the minutest capillaries, and especially as the valves are simultaneously destroyed, cannot be altogether without influence on the circulation of the blood.

The violent pain by which this patient had so often been tormented can be easily explained, as the urate of lime had at the same time been deposited around the nerves, and had even penetrated the latter, as was very plainly demonstrable in the nerves of the thumb and index finger, which I examined as to this point, and which appeared somewhat swollen in consequence. It must be left to further investigations to show how far the pain in gout is always to be ascribed to irritation or pricking of the nerves of the great toe in consequence of the deposition of urate of lime between the sheaths of the nerves.—*Nederlandsch Lancet*, July and August, 1853, p. 97.

On Primary Cancer of the Spleen. By DR. GUENSBURG.

THE spleen is one of the organs least liable to be primarily affected with cancer. Lebert, in his work on Cancerous Diseases, states that he has never met with such a case. The exceptional nature of the lesion, therefore, renders the following history worthy the attention of pathological anatomists.

A woman, aged 40, had suffered for a year from weakness, attacks of fever, and lancinating pains in both hypochondriac regions, so violent as to deprive her of sleep. Dr. Guensburg having been

summoned to attend her, found her in a state of extreme emaciation. In the left hypochondrium was a tumour reaching to within half an inch of the epigastrium, and extending downwards to the level of a line drawn horizontally from the umbilicus. This tumour was hard, and presented an irregular surface; the dulness on percussion extended to the left axilla; the liver retained its ordinary volume; there was constipation; the sounds of the heart were normal; the pulse was small, and varied from 100 to 108; the blood contained a few white globules. The patient died with symptoms of general dropsy in four months after having been placed under treatment. On *post-mortem* examination there was found effusion of limpid serum in both pleura; some tubercles in the apices of both lungs; limpid serum in the pericardium. The heart was small; there was some opacity of the mitral valve; the heart and great vessels contained a little blood and some fibrinous coagula. There was effusion of serum into the abdomen. The spleen was about a foot in length, six inches in breadth, and the same in thickness; its surface was studded with hemispherical elevations as hard as cartilage. The tumours, which were difficult to remove, were of a deep brown colour mixed with white, and occupied the entire spleen; there were scarcely any traces of normal tissue in the organ. The lymphatic glands surrounding the spleen and pancreas were infiltrated with a soft whitish substance. The peritoneum was swollen, opaque, and easily torn. The remaining abdominal organs presented nothing remarkable. Microscopic examination revealed the existence of cancer cells in the morbid tissue of the spleen.—*Gazzetta Medica Italiana Toscana*, 1854, p. 38, from *Guensburg's Zeitschrift*, IV. 5, 1853.

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